

**Self-training questions to concluding summing-up module control**  
**“Special questions of hygiene and ecology”**

1. The rational nutrition concepts, principles and conditions.
2. The human nutritional status definition and indices.
3. The indices of plastic and energetic adequacy of nutritional status (weight and height Brock, Krebs indices, Quetelet index, subcutaneous fat thickness and others).
4. Method of calculation of the human requirements in nutrients.
5. The protein adequacy indices of the organism nutritional status.
6. The organism nutritional status adipose and carbohydrate adequacy indices. The inedible carbohydrates sufficiency signs in the organism.
7. The macro- and microelements and vitamins sufficiency signs and indices.
8. The human nutritional status biochemical indices.
9. The method of medical control of human nutritional status.
10. Physiological basics of energy and plastic metabolism in organism.
11. Physiological significance and main functions of the nutrition.
12. The concept of the rational nutrition as a basis of energy and plastic metabolism in human organism.
13. The characteristic of different population groups depending on the energy expenditure. Scientific background of the physiological standards of nutrition for different sex and age, professional population groups.
14. The total energy expenditure of human organism and its main constituents.
15. The doctor's duties concerning the medical control of the energy expenditure and nutrition for different population groups, organized collectives.
16. The significance of the rational nutrition to health protection and improvement.
17. The classification of nutrients and their functions in the organism (energetic, plastic, catalytic, protective).
18. Methods of determination of the human energy expenditure (direct and indirect calorimetry, alimentary ergometry, pulsometry, calculation methods).
19. Method of calculation of the human energy expenditure using the anthropometric and time-keeping data.
20. Methods of balance and budget research of nutrition, their goals, advantages and disadvantages for the assessment of the individual and collective nutrition.
21. Questionnaire methods of the nutrition assessment, their goals, advantages and disadvantages for the assessment of the individual and collective nutrition.
22. Laboratory methods of determination of energetic value and nutrient composition of the daily intake.
23. Calculation methods of determination and assessment of the daily intake quantitative and qualitative composition.
24. Medical, sanitary and hygienic optimization measures in the collective and individual nutrition.
25. Vitamins as a human dietary intake component, their classification, physiological significance in organism.
26. The most frequent hypovitaminosis states in cases of both individual and collective nutrition and their causes.
27. Symptomatic, clinical and biochemical signs of the hypovitaminosis C, its diagnostic functional tests.
28. Hypovitaminosis A, methods of its detection.
29. Hypovitaminosis B, methods of their diagnosis.
30. The main sources of water-soluble vitamins.
31. The main sources of liposoluble vitamins.
32. Prevention methods and measures of hypovitaminosis. The influence of the storage conditions, foodstuff culinary handling, and sale conditions on preservation of the vitamins in them.

33. Comparative hygienic characteristics of the natural and artificial vitamin medical preparations as hypovitaminosis prevention measures.
34. Food products and their classification, hygienic characteristic.
35. State standards and hygienic regulations of food industry products, quality certificates of market products.
36. Causes and criteria of food products deterioration.
37. Storage conditions of food products, selling terms for unstable products and ready meals.
38. Rules of food products culinary processing for saving their high quality, vitamins, gastrointestinal diseases prevention (gastritis, gastric ulcer of stomach and others).
39. Quality and deterioration criteria of meat products (beef, pork, mutton, poultry etc.).
40. Quality, deterioration and falsification criteria of milk and dairy products (sour cream, kefir, yoghurts, cheeses, butter and etc.).
41. Quality and deterioration criteria of bread, bakeries, confectionery, biscuits.
42. Quality and deterioration criteria of other grain products (flour, cereals, macaronis, vermicelli etc.).
43. Quality and deterioration criteria of canned goods (meat, fish, vegetable and others).
44. Quality and deterioration criteria of fresh and pickled vegetables.
45. Food additives, their purpose, hygienic characteristics.
46. Chemical weed-killers and artificial chemical fertilizers as food product pollutants.
47. Regulations of sampling of the products for laboratory analyses, filling in the accompanying form, conservation and sealing up to laboratory for dispatching. Drawing up of the act of sample taking.
48. Drawing the conclusion about food products quality based on the assessment of laboratory analyses results.
49. Food poisonings, their definition and classification.
50. Alimentary toxicoinfections: definition, etiology, diagnostics, clinic, methods of prevention.
51. The bacterial toxicosis: botulism, staphylococcal, their etiology, diagnostics, clinic, prevention.
52. The mycotoxicosis, their etiology, diagnostics, clinic, prevention.
53. The food poisonings of non-microbe origin with:
  - products which are toxic by nature;
  - products which become toxic due to storage conditions;
  - products, contaminated with toxic substances (xenobiotics) – heavy metals, pesticides etc.
54. Food poisonings of unknown origin (Kashin-Bek disease etc.), hypotheses of their origins, clinical characteristics.
55. Methods of investigation of food poisoning cases, roles and duties of the hygienists and medical doctors. The documents, drawn up during and after the investigation of food poisoning.
56. The guidelines and legislative documents used for the food poisonings investigation and prevention.
57. The preventive measures for elimination and prevention of food poisonings.
58. Factors of environment and social conditions of life which influence the children and adolescent health formation.
59. General patterns of the child and adolescent organism growth and development. Assessment criteria and indices of the children's and adolescents' health.
60. Method of complex assessment of the children's and adolescents' health. Peculiarities of allocation of children and adolescents by health groups.
61. Physical development as a main criterion of assessment of health. Main incidences of physical development.
62. Rules of anthropometry. Requirements to tables of regional standards of physical development.
63. Biological and chronological age. Indices of the biological development level of children and adolescents. Modern concepts of epochal and interage acceleration and deceleration (retardation).

64. Methods of assessment of the children's and adolescents' physical development (method of sigmal deviations, assessment by regression scales, complex and centile methods).
65. Methods of assessment of health state and physical development in organized children collectives.
66. Tasks of doctor concerning organization and carrying out of sanitary measures in children collectives (schools, gymnasiums, lyceums, colleges, hostels, vocational schools, children's homes, infant schools, labour and rest camps, extracurricular (out-of-school) establishments). Systems of the children's and adolescents' health management.
67. Factors and conditions of environment, training and education which influence the children and adolescents health.
68. Health disorders and diseases caused by influence of environment factors and conditions during the stay at the educational establishment.
69. Hygienic requirements to land plot, building and group section of children preschool establishment. Principle of group isolation and its significance.
70. Hygienic requirements to land plot and building of general (not specialized) schoolhouse. Principle of functional zoning and its significance.
71. Hygienic requirements to planning, maintenance, equipment, microclimate, ventilation and illumination, sanitary and technical infrastructure of main schoolhouse premises.
72. Method of hygienic assessment of pupils stay and education in modern schoolhouses.
73. Hygienic requirements to school furniture and their physiological substantiation.
74. Rules of school desks and other school furniture marking, pupils seating. Hygienic requirements to school desks location in school class.
75. Main preventive measures concerning improvement of sanitary and hygienic conditions of pupils stay in modern school houses.
76. Anatomical and physiological, psychological and physiological peculiarities of the child and adolescent organism depending on age and sex.
77. Medical, physiological, psychological and pedagogic assessment criteria of the child development level. Methods of studying of psychological and physiological peculiarities of the child and adolescent organism depending on age.
78. Health disorders and diseases caused by irrational organization of training and education.
79. Concept of school maturity. Hygienic basics and method of examination of functional readiness of a child to training at school.
80. Hygienic requirements to organization of training and education in modern general educational establishments.
81. Concept of day regimen and main regimen elements. Peculiarities of hygienic standardization of the pupil's daily activity. Hygienic principles of making up and assessment of day regimen of children and adolescents depending on age.
82. Hygienic requirements to school time-table and methods of its assessment.
83. Hygienic requirements to organization and carrying out of the lesson. Peculiarities of 6-year-old children training.
84. Hygienic requirements to school text-books and manuals.
85. Peculiarities of training and education in modern educational establishments (gymnasiums, lyceums, colleges, etc), specialized schools, children health centers and health-improving establishments.
86. Hygienic requirements to organization of the pupil's off-hour activity and free time.
87. Preventive sanitary inspection of the patient care institutions' project and building; its main stages. Constituents of the project.
88. Hygienic requirements concerning the location of the hospital within the settlement taking into account the adjacent objects and "wind rose". The situational layout.
89. Hygienic requirements concerning the hospital area general layout, the territory functional zoning, accomplishment, density of housing and green area.

90. Modern systems of the hospitals site development (centralized, blocked, decentralized-pavilion, mixed), their comparative characteristics, influence on the exploitation and equipment conditions.
91. Hygienic significance of the hospital constructions and departments' internal planning for the provision of the personnel labour and patient treatment hygienic conditions.
92. Hygienic requirements concerning the planning of the hospital admission departments; its significance for the exploitation regime and the hospital nosocomial infections prevention.
93. Hygienic requirements concerning the planning and the work regime of the therapeutic, surgical and infectious diseases departments.
94. Hygienic characteristics of the ward sections, the requirements for these sections rooms at different departments.
95. Hygienic requirements concerning the planning and equipment of wards and different purpose departments. Peculiarities of infectious diseases and intensive care units' planning and equipment.
96. Hygienic requirements concerning the planning, equipment and the exploitation regime of the surgical departments operating blocks.
97. Organization of nutrition in hospitals (centralized and decentralized forms of the patients' provision with hot food).
98. Hygienic requirements concerning the hospitals' sanitary facilities:
  - natural and artificial lighting, heating, ventilation;
  - water supply, removal and elimination of the hospital solid and liquid wastes, their peculiarities for infectious and surgical departments.
99. Methods and measures of the nosocomial infection prophylaxis: specific and non-specific ones.
100. Occupational hazards, labour hygiene of different departments' medical personnel (polyclinics, admission departments, somatic, surgical, infectious, X-ray, radiological, physiotherapeutic departments, disinfectors and others).
101. The hygienic significance of the planning, equipment, optimal regime of exploitation of the patient care institutions as conditions for the increase of patients' treatment efficacy, prophylaxis of nosocomial infections and creation of safe medical personnel labour conditions.
102. Hygienic requirements concerning the planning, sanitary appliance of the different type admission department and patients' discharge.
103. Hygienic requirements concerning the planning, sanitary appliance, optimal regime of exploitation of the therapeutic, surgical departments, the operating block and the intensive care units.
104. Hygienic peculiarities of planning, sanitary appliance, optimal regime of exploitation of the infectious, children's, phthisiatric and other specialized departments.
105. Hygienic requirements concerning the planning, sanitary appliance, optimal regime of exploitation of the ward sections and the wards of different departments of patient care institutions.
106. Hygienic requirements concerning the planning, sanitary facilities, optimal regime of exploitation of the X-ray, radiological, physiotherapeutic departments of the treatment institutions.
107. Patients' nutrition organization at in-patient departments and the hygienic control of its full value and safety.
108. Sanitary and hygienic requirements concerning collection, removal and sterilization of solid, liquid and specific wastes.
109. Occupational hazards, hygiene and labour protection of different medical departments (surgical, therapeutic, infectious diseases, psychoneurological and others) medical personnel.
110. Occupational hazards, hygiene and labour protection of the medical personnel of diagnostic, physiotherapeutic, balneal and other specific departments, intensive care units and medical institution laboratories.

111. Legislative and organizational measures concerning the medical workers' labour protection.
112. Personal patients' and medical workers' hygiene within the system of health and labour protection, prophylaxis of nosocomial infection and occupational diseases.
113. Radiation hygiene as a branch of hygienic science and sanitary practice, its objectives and problems.
114. Ionizing radiations used in industry, science, medicine, their sources (X-ray apparatuses, radioactive nuclides, charged particle accelerators, nuclear reactors, enterprises on quarrying and enrichment of nuclear raw materials, on processing and entombment of radioactive waste).
115. Qualitative and quantitative properties of radioactive nuclides as sources of ionizing radiations (types of nuclear transformations and of radiations that accompany them), half-life period, activity,  $\gamma$ -equivalent, their units.
116. Qualitative and quantitative properties of ionizing radiation (energy, penetrant and ionizing power). Types of doses, their units. Dose rates.
117. Ionizing radiation as industrial hazard, conditions that determine radiation hazard at work with them (type and energy of radiation, quantity of absorbed dose, type of radiation effect, allocation of energy in the organism, radiosensitivity of the organism, and danger of radioactive nuclides).
118. Main types of radiation damage of the organism (deterministic, stochastic) and conditions of their origin.
119. Acute and chronic radiation sickness, conditions of its origin, phases of clinical course, basic symptomatology.
120. Long-term effects of radiation damage, local lesions (carcinogenic, teratogenic, embryotoxic effects, radioactive burn etc.)
121. Regulations of radiation safety and Primary sanitary regulations of work with active materials and other sources of ionizing radiation, principles of hygienic control.
122. Methods and means of radiation and medical control at work with sources of ionizing radiation.
123. Qualitative and quantitative characteristics of radioactive nuclides (kinds of nuclear transformation and kinds of radiation that accompany them, half-life period, activity,  $\gamma$ -equivalent, units)
124. Basic qualitative and quantitative characteristics of ionizing radiation (kinds, penetrating power, ionizing power, absorbed dose, absorbed dose in the air, flux density of particles, equivalent dose, effective dose, absorbed dose rate in the air, units).
125. Types of radiation effects (external and internal radiation) on the organism, conditions they depend on. Bare and sealed sources of nuclear transformations.
126. Limit of dose of external and internal radiation. Norms of radiation safety of Ukraine-97.
127. Methods and ways of protection from external and internal radiation of sanitary and hygienic character, their organization and technical solutions.
128. Methods of protection from internal radiation based on physical laws of its damping (protection by amount, by time, by distance, by shields), their legislative, organizational and technical basics.
129. Principles of material selection and calculation of thickness for  $\beta$ -,  $\gamma$ - and X-ray radiation shields.
130. Importance of calculation methods of assessment of radiation hazard and parameters of protection from external radiation in complex of measures of radiation protection of the personnel.
131. Ionizing radiation as occupational hazard for personnel of hospitals.
132. Ionizing radiation as risk factor for patients of hospitals during radiology and nuclear diagnostic and treatment procedures.
133. Structure of radiological department of hospital. Peculiarities of radiological hazard and radiation protection in each organization department (bare, sealed sources, long-focus therapy).

134. Characteristics of radiological hazard in X-ray diagnostic room and conditions it depends on.
135. Regulations of radiological hazard and benefits for personnel and patients of patient care institutions (HPBY-97, OCIIY-01, other legislative documents).
136. Ways of decreasing of radiation exposure of personnel and patients of patient care institutions. Sanitary and technical equipment of X-ray and radiological departments.
137. Methods of collection and sterilization of radioactive waste during work with bare sources of ionizing radiation.
138. Methods and ways of sanitary control and survey during work with sources of ionizing radiation in patient care institutions.
139. Determination and classification of emergency situations. International and national units on elimination of catastrophe consequences.
140. Peculiarities of the life support of non-governmental units, rescue teams and affected population during catastrophes and in other emergency situations (location, nutrition, water supply, bath and laundry service, sewage and solid waste collection and neutralization).
141. Kinds of field location of rescue units (training units, camps, moving camps- bivouacs, residential constructions and constructions, deepened into the ground).
142. Organizations of sanitary inspection of field location of rescue units in emergency situations. Duties of officials of units concerning proper control of hygienic conditions in field locations of different type.
143. Area choice requirements for rescue units field location during elimination of catastrophe consequences or other emergency situations.
144. Field camp, bivouac sanitary improvement hygienic requirements: water supply, collection, sewage disposal, solid and liquid waste treatment, bath and laundry securing, etc.
145. Kinds of field habitation (basic and extempore), hygienic requirements for their equipment and operation during emergency situations. Field habitation, deepened into the ground (dug-outs, blindages) and requirements for staying conditions in them (area, cubic capacity, ventilation, heating, etc.).
146. Indoor shelters, planning elements, area, cubic capacity, carbon dioxide maximum allowable concentration (MAC) regulations, sanitary improvement. Air supply to shelters, filter and ventilating units.
147. Methods and means of medical control of rescue units in field conditions, in protective installations.
148. Specify the services of rescue and non-governmental units, which select water supply sources and name the instruments they use to make examination of water supply sources.
149. Give water supply quantitative rates for the units in field conditions; specify their dependence upon climatic conditions and emergency situations.
150. Specify and substantiate peculiarities for drinking water standards during emergency situations.
151. Describe the staff, equipment and instruments of water investigation group, procedure and methods of the water supply sources examination.
152. Explain the meaning of sanitary and epidemiologic, sanitary and topographic, sanitary and technical examination of water supply sources.
153. Explain how to evaluate discharge of a well, river.
154. Give characteristic of organoleptic, physicochemical, bacteriological and other indices of drinking water quality and water quality from water reservoirs.
155. Organization of field water supply for rescue and non-governmental units. Water supply and water pumping points.
156. Types of water treatment in field conditions, their characteristics.
157. Methods and basic means of water purification, disinfection, desalination and decontamination in field conditions.

158. Medical service duties on organization and control of water supply of the units; laboratory facilities and methods of water treatment quality control in field conditions.
159. Rational (full-value) nutrition, conditions of its provision. Physiological norm of food as a basis of food sufficiency and adequacy to the needs of human organism.
160. Organization of food for rescue teams and civil units in field conditions during emergencies, types of food (collective, group, individual). Food stations, types of field kitchens, types of other facilities.
161. Food in conditions of contamination of area and objects with strong poisonous substances, radioactive substances, infection with bacterial substances.
162. Food concentrates, dry rations, rations for survival as foodstuffs for personnel of the units during critical period of disasters, at other emergencies.
163. Duties of medical staff, methods and instruments of sanitary control of the adequacy and safety of food for personnel of the units and for affected population in field conditions during emergencies.
164. Health disorders and diseases caused by quantitative and qualitative inadequacy of daily ration, food irregularity, inconformity of quality of foodstuffs and ready meals to enzymatic potentiality of digestive system (notion of enzymatic constellation).
165. Foodborne infectious diseases, helminthiasis, food poisonings, methods of their investigation and prophylaxis under field conditions during emergencies.
166. Hygienic characteristics of basic foodstuffs, canned goods, food concentrates.
167. Indices that characterize freshness, commodity quality of food substances, signs of food spoilage, epidemiological and toxicological danger.
168. Sources, factors and mechanisms that determine foodstuffs infection, by poisonous, radioactive substances and bacterial means.
169. Medical service sub-units of the units which functions are to carry out foodstuffs medical examination.
170. Basic means (laboratory kits and instruments) aimed for foodstuffs medical examination in field conditions.
171. Stages of food medical examination and possible variants of expert's reports at different stages of the examination.
172. Physiological functions of water (structural, exchanging, transporting, excretory, heat exchanging etc.) and their peculiarities in tropic conditions.
173. Epidemic and endemic waterborne diseases of arid and humid tropic regions.
174. Human body dehydration in tropical climate, its signs and symptoms.
175. Scientific substantiations of norms of physiological, residential, industrial water requirements and their peculiarities in tropical regions.
176. Hygienic requirements to water quality and their peculiarities in tropical conditions.
177. Organoleptic and chemical characteristics of water, their hygienic significance and peculiarities in tropical regions water.
178. Organoleptic, chemical, bacteriological, toxicological water pollution indices, their peculiarities in tropical conditions.
179. International water quality standards and peculiarities of their usage in tropical conditions.
180. Hygienic characteristic of water recourses and water supply sources in arid and humid tropical areas.
181. Hygienic characteristic of methods and means of purification, disinfection, special water conditioning methods in tropical conditions.
182. Methods and organization of drinking water quality sanitary control in cases of centralized and decentralized water supply in developed countries of tropical regions and in developing countries.

183. Sanitary examination methods of water supply sources, water sampling for laboratory analysis and their results assessment. Water sample preservation methods in hot climate conditions.
184. Social and hygienic peculiarities of nutrition of different age and sex population groups in tropical regions.
185. Physiological and hygienic basics of rational nutrition in tropical conditions.
186. Organism energy, protein, fat, carbohydrate requirements and their quantity and balance peculiarities in tropical climate.
187. Vitamins, mineral salts, microelements, taste substances (spices) role in nutrition of tropical regions population.
188. Hot climate influence on food and some its components assimilation.
189. Metabolism and nutrition pattern peculiarities in tropical regions.
190. Hygienic characteristics of food products, used by population of arid and humid tropical regions.
191. General characteristic of alimentary diseases of tropical regions population.
192. Malnutrition and complete starvation diseases (protein and energy insufficiency) among tropical regions population.
193. Vitamin deficiency diseases (hypo- and avitaminosis) among tropical regions population. Polyunsaturated fatty acids deficiency diseases.
194. Mineral and microelements deficiency diseases among population of tropical regions.
195. Overeating diseases in tropical regions.
196. Diseases caused by poor quality of food intake (foodborne diseases, helminthosis, food poisoning, enzymopathies).
197. Methods of medical control over tropical regions population nutrition.
198. Calculation methods of the population nutrition assessment. Alimentary calorimetry method.
199. Sanitary inspection of food products and ready meals, its usage in tropical region counties.
200. Food products storage and preservation peculiarities in tropical conditions, usage of preservatives and antibiotics.
201. Methods and measures of prevention of the foodborne diseases, infections and invasions with alimentary transmission mechanisms, food poisoning.