

**List of theoretical questions, which the student must have in accordance
with requirements of speciality 7.110101 „curative medicine”,
at the practice-oriented state exam on hygiene**

Propedeutic to hygiene

1. Hygiene, its objective, tasks, content, connection with other subjects. Methods of hygienic research.
2. Main stages of the development of hygiene as a subject, its founders.
3. Influence of natural factors and social conditions on the organism and population health. Important role of social conditions. Priority of preventive measures in comparison to curative ones, priority of social and hygienic measures in comparison to personal hygiene.
4. Biosphere. Structure, chemical composition, physical properties, hygienic significance of its components (atmosphere, lithosphere, hydrosphere).
5. The environment, main definitions (natural, polluted, industrial, etc.), its elements. Impact of modern science and technology on the environment and population health, tasks of hygiene for prevention of the environment denaturation.
6. Sanitary legislation, its elements and significance.
7. Hygienic standardization as a basis for prevention of population diseases resulting from insufficient residential and labour conditions, malnutrition, bringing up of children and adolescents. Principles for substantiation of hygienic standards (regulations).
8. Methodology of hygiene, philosophical basis and components of subject methodology of hygiene.
9. Laws (principles) of hygiene, their essence.
10. Solar radiation and its hygienic significance. Biological effects of different bands of solar spectrum. Prevention of diseases caused by insufficient insolation. Impact of excessive solar radiation on the organism. Artificial UV-radiation sources, which are applied for the solar starvation prevention and the air sanitation, their sanitary and hygienic characteristics.
11. Climate and its hygienic significance. Prevention of diseases caused by unfavourable climatic factors. Acclimatization as a complex social and hygienic process for adaptation of the human to new climatic conditions. Impact of lifestyle, labour, nutrition and clothes on the acclimatization.
12. Weather and its hygienic significance. Influence of the weather on patients with cardio-vascular, neurological diseases. Prevention of heliometeotropic reactions and diseases caused by the impact of unfavourable weather conditions.
13. Aerosols, their origin, properties, which have a crucial hygienic importance. Bacterial pollution of the air. Impact of dust and bacteriological additives on health and sanitary state of the population.
14. Heat exchange between the human body and the environment. Heat production and heat emission in different microclimates. Hygienic significance of temperature, humidity, air movement, radiation.

15. Microclimate, its parameters, types of microclimate. Physiological deviations and diseases resulting from discomfort microclimate, their prevention. Technique of hygienic study of microclimate and its impact on the organism.

16. Natural lighting, indices, which are used for its assessment. Requirements to natural lighting and its hygienic assessment.

17. Artificial illumination, indices, which are used for its assessment. Requirements to artificial illumination, principles of standardization, comparative hygienic assessment of different sources of artificial illumination, methods of determination, hygienic assessment of artificial illumination.

18. Noise, parameters, which characterize noise. Impact on the organism. Principles of standardization depending on the premises, technique for determination and hygienic assessment.

19. Tempering, its main principles. Physical training as an element of personal hygiene. Importance of tempering and physical training for acclimatization to different geographic and seasonal conditions.

20. Harmonization of international standards into local legislation. Policies of WHO, experts of FAO/WHO, the US EPA, European Union for protection of the environment, foodstuffs, raw materials.

21. Method of the risk analysis as a measure to identify the risk connected with hazardous factors.

22. Regional and international standards for quality management during laboratory analysis.

23. Legislative basis for obligatory implementation of ISO 17025, ISO 9000 and HACCP principles for laboratory analysis.

Radiation hygiene

1. Physical basis of radiation safety and anti-radiation protection during operation with radionuclides and other sources of ionizing radiation.

2. Hygienic characteristics of ionizing radiation applied in medicine. Conditions which identify the radiation danger during operation with radionuclides and other sources of ionizing radiation.

3. Main regularities and peculiarities of biological effects of ionizing radiation, their application in radiation protection of the personnel and radiation safety of the population.

4. Classification of clinical harmful effects of ionizing radiation on the human organism depending on conditions of the irradiation.

5. Hygienic standardization of ionizing radiation. Modern scientific concepts for standardization of radiation levels for personnel and population, principles, which they are based on.

6. Ionizing radiation as the environmental factor, its sources (natural, natural intensified, industrial). Patterns of formation of radiation loading for population, its hygienic assessment.

7. Radionuclide radon, medical X-ray and radiological procedures as a part of radiation loading for population, their hygienic assessment and way of diminishing.

8. Radiation safety of population in residential areas as a hygienic problem. Conditions, which determine the radiation safety, and way of practical approach.

9. Ionizing radiation as an industrial hazard. Conditions which influence the radiation safety during operation with radionuclides and other sources of ionizing radiation.

10. Anti-radiation protection during operation with radionuclides and other ionizing radiation sources as a hygienic problem, ways of its practical solution.

11. Peculiarities of radiation safety and anti-radiation protection during operation with sealed and bare sources of ionizing radiation.

12. Requirements to anti-radiation protection of the personnel and radiation safety of the patients in the X-ray departments of hospitals, ways of its practical solution.

13. Requirements to anti-radiation protection of the personnel and radiation safety of the patients in the X-ray and radiological departments of hospitals, ways of its practical solution.

14. Chornobyl accident and its peculiarities which lead to negative consequences for the population health and environment. Radiation situation on radioactively polluted territories, hygienic peculiarities of the population lifestyle, nutrition, labour and rest.

15. Concept of the population living on radioactively polluted territories.

16. Organization and carrying out of radiation control during operation with radionuclides and other ionizing radiation sources and the environment. Organization forms, types, programs, devices for radiation control. Medical examination on the personnel health.

Emergency hygiene

1. Emergency situations, their classification. International and national organizations for accident elimination. Tasks of medical service for hygienic supply of casualties and rescue teams.

2. Hygienic requirements to temporary shelters for rescue teams and casualties during emergency situations. Types of temporary shelters. Types of objects for temporary shelters, their hygienic characteristics.

3. Sanitary and anti-epidemic measures in emergencies. Facilities for rescue teams in temporary shelters.

4. Location of rescue teams and casualties in underground shelters. Unfavourable factors, prevention of their impact. Planning, area standards, cubic capacity, means and regimes of ventilation, maximum allowable concentration of CO₂, air temperature and humidity. Methods and means for control.

5. Organization of nutrition during emergency situation. Nutrition points, rations, nutritional concentrates and their hygienic characteristics.
6. Methods of medical examination on nutrition (its value and safety) during emergencies. Examination of foodstuff, methods and means of sanitary inspection on nutrition points, nutrition storage facilities.
7. Epidemiological, sanitary and hygienic significance of water during emergencies. Peculiarities of the water quality criteria in emergencies.
8. Organization of the water supply for rescue teams and casualties. Hygienic requirements to water supply sources and water pumping facilities.
9. Methods and means for water purification, disinfection, deactivation in emergency situations. Purification and disinfection of the water by chlorine techniques. Methods and means for medical control of the water treatment quality in field conditions.
10. Labour conditions of rescue team members: main hazards and prevention of their impact, methods and means of medical control. Individual protection equipment for body, respiratory tract.

Labour hygiene

1. Principles of hygienic standardization of microclimate for industrial premises.
2. Principles of hygienic standardization of industrial noise.
3. Principles of hygienic standardization of industrial vibration.
4. Principles of hygienic standardization of electromagnetic band interference in the industrial environment.
5. Principles of hygienic standardization of laser radiation in the industrial environment.
6. Principles of hygienic standardization of artificial illumination in the industrial environment.
7. Principles of hygienic standardization of natural lighting in the industrial environment. Determination of the daylight factor for the following conditions of lighting: upper, side (one-side, two-side) and combined.
8. Principles of hygienic standardization of the ultraviolet radiation in the industrial environment.
9. Principles of hygienic standardization of infrasound in the industrial environment.
10. Increased and decreased atmospheric pressure as an industrial hazard. Impact of increased and decreased atmospheric pressure on the human organism. Measures for prevention of negative impact of increased and decreased atmospheric pressure.
11. Principles of hygienic standardization of ultrasound in the industrial environment.

12. Principles of hygienic standardization of industrial poisoning substances in the working zone.
13. Industrial ventilation. Classification. Hygienic assessment of ventilation effectiveness Calculation and organization of the air exchange in the industrial environment.
14. Hygienic characteristics of different types of industrial ventilation. Measures concerning prevention of noise and vibration impact from ventilation facilities.
15. Main types of individual protection equipment for respiratory tract, ears, eyes and hand skin. Working clothes, footwear which used in industry and agriculture.
16. Hygienic characteristic of the manufacturing process in the engineering industry. Unfavourable occupational factors in engineering industry workshop.
17. Occupational diseases of operators in the engineering industry. Principal preventive measures for improvement of the labour conditions.
18. Hygienic characteristic of the manufacturing process in the metallurgy. Unfavourable occupational factors in metallurgy workshop.
19. Occupational diseases of operators in the metallurgy. Principal preventive measures for improving of the labour conditions.
20. Hygienic characteristic of the manufacturing process in the mineral resource industry. Unfavourable occupational factors in the mineral resource industry workshops.
21. Occupational diseases of operators in the mineral resource industry. Principal preventive measures for improving of the labour conditions.
22. Hygienic characteristic of the manufacturing process in the chemical industry. Unfavourable occupational factors in the chemical industry workshops.
23. Occupational diseases of operators in the chemical industry. Principal preventive measures for improving of the labour conditions.
24. Hygienic characteristic of the manufacturing process in the agriculture. Unfavourable occupational factors in the livestock farming and beekeeping.
25. Occupational diseases of operators in the agriculture. Principal preventive measures for improving of the labour conditions.
26. Hygienic peculiarities of the occupational environment for surgeons of different specialities. Peculiarities of occupational diseases among surgeons.
27. Hygienic peculiarities of the occupational environment for general practitioners. Peculiarities of occupational diseases among general practitioners.
28. Hygienic peculiarities of the occupational environment for dentists. Peculiarities of the occupational diseases among dentists.
29. Measures for improvement of the occupational environment for medical personnel.

30. Main unfavourable occupational factors which influence monitor operators. Types of work which could be performed on the monitors and professional groups depending on the types of work activity.
31. Health state and working capacity of display operators. Preventive measures during occupation with displays.
32. Peculiarities of hygienic requirements to work of females, adolescents and senior groups.
33. Principal physiological and anatomical peculiarities of the organism of females, adolescents, senior and disabled peoples which lead to their increased sensibility to hazardous occupational factors.
34. Impact of the occupational environment on female organism. Sensibility of the male and female organism to hazardous occupational factors.
35. Peculiarities of the organization of labour for females. Benefits for pregnant females.
36. Impact of the occupational environment on adolescent organism. Sensibility of the adolescent organism to hazardous occupational factors.
37. Peculiarities of the organization of labour for adolescents.
38. Peculiarities of the organization of labour for senior people.
39. Principal factors which influence the health state of employees.
40. Methods of examination of employee health state, main advantages and disadvantages for each of them.
41. Assessment of measures for effective prevention of negative impact of occupational factors on employees based on examination of employee health.
42. Role of medical personnel in collection and processing of the initial data necessary for filling the report on morbidity with temporary disability.
43. Goal and main tasks for deep examination of morbidity with temporary disability among employees in industry.
44. Application of results of the deep medical examination of employees with morbidity with temporary disability for substantiation of preventive measures.
45. Goal of preventive and regular medical examinations of employees. Measures for prevention of negative impact of the occupational hazardous factors.
46. Occupational diseases, their classification, peculiarities of diagnostics and investigation, register forms.
47. Investigation of acute and chronic occupational diseases (poisonings) cases.
48. Importance of sanitary inspection, laboratory and instrumental researches for investigation of the labour conditions in industry.
49. Organization and carrying out of preventive sanitary inspection during choosing of land parcel for the building (reconstruction) of industrial premises, project appraisal, construction and putting this object into operation.
50. Preventive sanitary inspection on the application into practice of new manufacturing processes and equipment, chemical substances, etc.

51. Organization and carrying out of regular sanitary inspection in the industry.

52. Methods of carrying out of deep sanitary inspection of industrial premises, filling of the sanitary inspection certificate and substantiation of necessary preventive measures.

Nutrition hygiene

1. Technique for nutritional state assessment.
2. Main assessment criteria for nutritional state.
3. Clinical signs and biochemical indices of nutritional state deviation.
4. Technique for improvement of nutritional state of the patient.
5. Determination of principles for alimentary correction of the nutritional state taking into account pathological and genetic mechanisms of the disease.
6. Technique of composition of adequate diet which corresponds to peculiarities of the patient individual nutritional state and health.
7. Technique of carrying out of rational diet correction taking into account changes in the patient health state.
8. Working out of recommendations for diet of the patient directed to prevent the exacerbation of the disease.
9. Curative and diet peculiarities of the milk and dairy products. Indications and contraindications for their consumption.
10. Curative and diet peculiarities of the meat, meat products and meals. Indications and contraindications for their consumption.
11. Curative and diet peculiarities of the fish, sea food and meals. Indications and contraindications for their consumption.
12. Curative and diet peculiarities of the eggs and their products. Indications and contraindications for their consumption.
13. Curative and diet peculiarities of the fruit and vegetables. Indications and contraindications for their consumption.
14. Curative and diet peculiarities of the cereals and their products. Indications and contraindications for their consumption.
15. Diet products, their characteristics, indications.
16. Special foodstuffs for senior people with geroprotective properties.
17. Special foodstuffs for children and adolescents.
18. Special foodstuffs for athletes.
19. Curative and preventive nutrition. Characteristics, indications. Special foodstuffs with curative and preventive properties.
20. Diet additives. Characteristics. Indications. Application of diet additives for treatment and prevention.

21. Peculiarities of diet for patients with different diseases (atherosclerosis and its complication, cardio-vascular, gastrointestinal diseases, pathology of liver, pancreas and metabolism, oncological pathology).

Municipal hygiene

Sanitary protection of water objects:

1. Sources of water pollution. Comparative assessment of household, field and rain waste waters.
2. Impact of water source pollution on the population health and living conditions.
3. Scientific background of water protection. Types of water consumption, their hygienic significance. Principles of hygienic standardization of hazardous substances in water.
4. Technique for calculation of allowable wastes discharge into the water. Significance of quality of wastes discharge, hydrological, sanitary protection of water and conditions of water consumption.
5. Sanitary rules for the wastes discharge, its hygienic substantiation.
6. Sanitary and technical measures. Hygienic significance of sewage system. Stages and methods for wastes water purification.

Sanitary protection of soil and purification of settlements:

1. Soil as a component of the biosphere. Hygienic significance of soil in modern industry and agriculture. Main sources of soil pollution, their hygienic characteristic. Impact of the soil pollution on the population health and living conditions. Role of the soil in spreading of infectious disease and invasions. Endogenic and man-caused biogeochemical areas and non-infectious diseases. Assessment of the soil sanitary state. Estimated scale for assessment of the population health depending on soil pollution with exogenous chemical substances.
2. Principles of sanitary purification of settlements, classification and standards for waste collection, their hygienic significance. Systems for waste collection and removal.

Sanitary protection of the atmospheric air:

1. Problem of the atmospheric air pollution in Ukraine and abroad. Main sources of the air pollution in settlements, their comparative assessment. Patterns of the atmospheric air pollution spreading. Factors which influence the atmospheric air pollution. Transformation of chemical substances in the atmospheric air. Self-purification of the atmosphere.

2. Impact of the polluted atmospheric air on the population health and living conditions. Acute poisonings, chronic specific and non-specific pathology. Adverse effects on physical properties of the atmospheric air, green plants.

3. Principles and methods of hygienic standardization of hazardous substances in the atmospheric air. Maximum allowable concentrations of hazardous substances in the atmospheric air of settlements.

4. Legislation on sanitary protection of the atmospheric air. Measures for the atmospheric air protection: technological, sanitary and technical, planning.

Hygiene of children and adolescents

1. Hygiene of children and adolescents as a branch of medical science and practice. Problems of hygiene of children and adolescents in modern society.

2. Concept of child health. Health groups. Criteria which used for assessment of child's health.

3. Factors which form the child and adolescent health.

4. Biological and social laws of the child development, their significance for formation of the child health.

5. Acceleration as a phenomenon. Theories of acceleration. Manifestation of epochal and inter-group acceleration among children of different age.

6. Physical development of a leading index of the child health. Methods for assessment of the child development.

7. Biological age of children and adolescents, its indices for children of different age.

8. Method of complex assessment of physical development and health of the child.

9. Peculiarities of the health of children and adolescents in nowadays, role of the doctor for prevention of diseases among children.

10. Anatomic and physiological peculiarities of children of different age, their significance for hygienic standardization of their activity.

11. Methods for research and assessment of functional deviations in the child or adolescent organism resulted from different activity.

12. Day regimen, main elements of day regimen. Types of the day regimen, hygienic standardization of elements of the day regimen.

13. Peculiarities of the day and week working capacity of schoolchildren, their significance for organization of the education at school.

14. Physiological and hygienic substantiation of the age when the child is ready to training at school.

15. "School readiness", criteria for assessment, methods for research of the „school readiness”.

16. Hygienic requirements to organization of education in preschool establishments.

17. Hygienic requirements to schedule at school for schoolchildren of different age.
18. Moving activity and its importance for the child development. Hypo- and hyperkinesia in childhood, prevention for manifestation.
19. Forms and means for physical training of children and adolescents. Tasks of medical inspection on organization of physical training in preschool establishments and schools.
20. Hygienic requirements to physical training lessons for children of different age.
21. Hygienic requirements to organization of craft lessons for children and adolescents.
22. Physiological norms of nutrients and energy for children and adolescents.
23. Methods of determination of A, C and D hypovitaminosis during medical examination of children. Artificial enrichment of food in C vitamin in children establishments, methods for application and assessment.
24. Hygienic requirements to the land parcel for preschool children establishments and schools.
25. Hygienic requirements to planning of main premises in the preschools and schools.
26. Hygienic requirements to natural lighting and artificial illumination in schools and establishments for children.
27. «School diseases» as a hygienic problem, preventive measures.
28. Equipment of the classroom. Parameters of anatomy and physiology of the child organism which are the background for the school table development. Hygienic significance of „difference”, „distance of the seat”, „distance of the back”. Methods for assessment of furniture supply in schools.
29. Physiological substantiation of the child position on the table.
30. Scoliosis as a hygienic problem. Methods for determination of the scoliosis among children. Preventive measures concerning locomotor apparatus among children and adolescents.
31. Platypodia (flat-footedness). Methods for its determination. Methods of its prevention in early age.
32. Hygienic requirements to children's toys. Methods of hygienic assessment of them.
33. Hygienic requirements to textbooks and other books for children and adolescents. Methods of hygienic assessment of school textbooks and books for children and adolescents.

literature

1. Hygiene and ecology. Textbook / Edited by V.G.Bardov. – Vinnytsya: Nove Knyha publishers, 2009. – 685 p.

2. Hygiene and ecology. Textbook / Vladimir Korobchanskiy, Michael Vorontsov, Alisa Musulbas. Kharkiv State medical University. – 2006. – 207 p.
3. General hygiene and environmental health. Textbook / Edited by professor M.M. Nadvorny. – Odessa State Medical University. – 2005. – 241 p.