Приложение 1

Assessment Fund

In the discipline of «Hygiene»

Level of higher education (SPECIALIST))

Direction of training

560001- KR

General medicine

(foreign students)

Qualification

General practitioner

2026

The assessment toolkit is designed to assess students' knowledge in the major (specialty) of **General Medicine (for international students)** in the discipline (practice) of "Hygiene"

The assessment fund was reviewed and approved at the department meeting "Hygiene, epidemiology, microbiology"

Protocol № 1 from "28" August 2026

Head of the Department of Hygiene

doctoral med. Sci., professor Kasymova R.O

Performers:

doctoral med. Sci., professor Kasymova R.O

cand. med. Sci.,

A list of competencies, indicating the stages of their development in the process of mastering the discipline/practice

Competencies being developed	Planned learning outcomes for the discipline, characterizing the stages of competence development	Types of assessment tools/section code in this document GPC-1: content of competence
PK-11 able and ready to conduct sanitary-educational healthy nutrition among the population; to eliminate modified risk factors for the development of diseases, to give recommendations.	**<u>Знать:</u>** - The role and tasks of nutrition in strengthening and maintaining health in modern conditions; - Recommended values of physiological norms for food consumption; - Recommendations for the correction of nutrition, taking in to account physiological norms;	**Блок А** − Reproductive-level tasks; Quizzes, tests, problem solving, preparing written homework, preparing presentations, tests, exams
	<u>Be able to:</u> - Use reference materials and tables when calculating the caloric content of waste rations Conduct a hygienic assessment of the diets and nutritional quality of various population groups Investigate food poisoning in order to organize preventive measuresпредлагать альтернативные решения для устранения вредных привычек.	**Block B -** Reconstructive-Level Assignments Presentations, independent work with educational, scientific, and regulatory documentation, problem solving, midterm assessment/exam (test) for semester 5.. 1. 1. Borsokbaeva S.S., Kasymova R.O., Kudayarova M.Zh., Azhimatova M.R., General Hygiene Textbook. ISBN 978-9967-19-633-9. 471 pages. 2019. 2. 2. Azhimatova M.R., Rudayarova M.Zh. Hygienic Assessment of the Air Environment and Environmental Protection. A Textbook. Bishkek: KRSU, 2020. 95 pages.

	<u>Expertise:</u> - Methods for correcting the qualitative and quantitative composition of the diet, taking into account the individual needs of the body - The methodology for compiling the menu - layout and its hygienic assessment - Methods for the prevention of hypovitaminosis conditions, mineral deficiencies	**Block C** consists of practice-oriented and/or research-based assignments. Presentations, discussion facilitation, midterm assessment/exam (test) for semester 5**.** 1. Borsokbaeva S.S., Kasymova R.O., Kudayarova M.Zh., Azhimatova M.R., Textbook. General hygiene. ISBN 978-9967-19-633-9. 471 s. 2019 g. 2. Azhimatova M. R., Kudayarova M.Zh. Hygienic assessment of the air environment and environmental protection. Uch.met. pos. 2020. 95 p. et al.

Competencies being developed	**Planned learning outcomes for the discipline, characterizing the stages of competence development**	**Types of assessment tools/section code in this document OPK-1: content of competence**
PK -25 - able and ready to train the population in basic hygiene measures and educational activities to form healthy lifestyle skills;	**Knowledge:** - Features of the influence of abiotic environment factors on human health (solar radiation, temperature, humidity, air velocity, atmospheric gas composition, natural and artificial lighting) - Fundamentals of hygiene measures aimed at improving the health of the population - Fundamentals of rational nutrition, organization of the regime of work and rest, prevention of fatigue and overwork. personal and public hygiene requirements	**Block A –** Reproductive Level Tasks Questions, tests, problem solving, preparing written homework, preparing a presentation, tests, exams

	Skills: - Establish cause-and-effect relationships of changes in health status from the impact of environmental factors - Use hygiene measures to improve public health - Conduct training for patients and relatives on the basic hygiene measures of a health-improving nature (accounting for daily energy consumption, drawing up a diet, work and rest, the effect of weather on health. hardening).)	**Block B -** Reconstructive-Level Assignments Presentations, independent work with educational, scientific, and regulatory documentation, problem solving, midterm assessment/exam (test) for 5th semester. 1. Borsokbaeva S.S., Kasymova R.O., Kudayarova M.Zh., Azhimatova M.R., General Hygiene Textbook. ISBN 978-9967-19-633-9. 471 pages. 2019. 2. Azhimatova M.R., Rudayarova M.Zh. Hygienic Assessment of the Air Environment and Environmental Protection. A Textbook. Bishkek: KRSU, 2020. 95 pages. et al.
	Expertise: - Theoretical knowledge in all areas of hygiene - Practical skills in the primary prevention of occupational diseases and poisoning, industrial injuries - Rules for the prevention of cardiovascular diseases, cancer, GID, meteorological diseases, preventive measures to increase the body's resistance.	**Block C** consists of practice-oriented and/or research-based assignments. Presentations, discussion facilitation, midterm assessment/test, 5th semester exam. 1. Borsokbaeva S.S., Kasymova R.O., Kudayarova M.Zh., Azhimatova M.R., Textbook. General hygiene. ISBN 978-9967-19-633-9. 471 s. 2019 g. 2. Azhimatova M. R., Kudayarova M.Zh. Hygienic assessment of the air environment and

		environmental protection. Uch.met. pos. 2020. 95 p. 3. et al.
PC-24 - able and ready to train middle and junior medical personnel in the rules of the sanitary and hygienic regime, ethical and deontological principles;	Knowledge: - The role and importance of individual environmental factors in the emergence and spread of infectious and non-infectious diseases; - Sources and ways of entry into the human body of contaminants of various nature that have an adverse effect on health; - Principles of organization and content of preventive measures to prevent or reduce the degree of adverse effects on humans of harmful factors and environmental conditions	**Block A:** Reproductive-Level Tasks; Questions, tests, problem solving, preparing written homework, preparing a presentation, tests, exams
	Skills: - Comply with moral and legal standards in professional activities. - Express professional information in the process of intercultural interaction, observing the principles of ethics and deontology - Use educational and methodological materials and documents in the field of sanitary protection of the environment;	Block B − Reconstructive-Level Assignments Presentations, independent work with educational, scientific, and regulatory documentation, problem solving, midterm assessment (5th semester), exam (6th semester) (theoretical questions, analytical assignments). 1. Borsokbaeva S.S., Kasymova R.O., Kudayarova M.Zh., Azhimatova M.R., Textbook. General Hygiene. ISBN 978-9967-19-633-9. 471 pages. 2019. 1. Azhimatova M.R., Kudayarova M.Zh.

		Hygienic Assessment of the Air Environment and Environmental Protection. Study Guide. Bishkek: KRSU, 2020. 95 pages. et al.
	Expertise: - The skill of working with educational and methodological materials and documents in the field of sanitary protection of the external environment; - The basic principles of ethics and deontology; - Basics of hygienic safety analysis; experience with search engines, databases, etc.. (computer skills PK); communication skills	**Block C** − practice-oriented and/or research-based assignments. Presentations, discussion facilitation, midterm assessment (5th semester), exam (6th semester) (theoretical questions, analytical assignments). 1. Borsokbaeva S.S., Kasymova R.O., Kudayarova M.Zh., Azhimatova M.R., Textbook. General Hygiene. ISBN 978-9967-19-633-9. 471 pages. 2019. 2. Azhimatova M.R., Kudayarova M.Zh., Hygienic Assessment of the Air Environment and Environmental Protection. Uch.met. pos. 2020. 95 pages. 3. et al.

Раздел 2.

The planning sheet of discipline

Discipline "HYGIENE"

Area/specialization LD

Course/Semester 5

Credit units (CU) 4

Title of module according to WDP	**Type of control**	**Forms of control**	**Minimal Credit points**	**Maximal Credit points**	**Week of control**
Module 1					
Module 1. Hygiene of atmospheric air, water, soil	Formative assessment	Activity, attendance, discussion of situational tasks	5	10	4
	Midterm examination	Evaluation test	5	10	
Module 2					
Module 2. Nutritional hygiene	Formative assessment	Activity, attendance, discussion of situational tasks	5	10	10
	Midterm examination	Report with presentation or abstract (optional)	5	10	

Module3					
Module 3. Hospital hygiene. Occupational hygiene and physiology	Formative assessment	Activity, attendance, discussion of situational tasks	5	5	16
	Midterm examination	Evaluation test	5	10	
Module 4					
Module 4. Hygiene of children and adolescents	Formative assessment	Activity, attendance, discussion of situational tasks	5	5	16
	Midterm examination	Evaluation test	5	10	
Total			40	70	
Midpoint assessment			20	30	
Summative assessment			60	100	

NOTES

1. For every missed class and an untrained lecture and practical lesson, 0.3 points are deducted.

2. 0.5 points are added for active participation in the practical lesson.

Раздел 3.

Standard assessment tasks and other materials necessary for assessing planned learning outcomes in a discipline/practice (assessment tools). Description of indicators and competency assessment criteria, description of assessment scales.

Block A

LIST OF TEST ASSIGNMENTS

1. Classification of methods of hygienic research - methods:
1. Sanitary description, chemical
2. Study of environmental factors
3. Study of the effects of environmental factors on the body
4. Sanitary

2. It is meant by the environment:
1. A complex of ambient environment factors
2. Social elements of the environment
3. Socio-economic factors
4. The environment of human production activities

3. Hygiene is a science that studies:
1. The influence of environmental factors and social conditions on the human body
2. Chemical composition
3. Health
4. The preservation and improvement of public health

4. The founders of Russian medicine at the end of the XIX century were active supporters of the preventive direction in medicine and considered hygiene as the most important branch of medical knowledge:
1. N.A. Semashko, Z.P. Soloviev, G.V. Khlopin
2. N.I. Pirogov
3 Hippocrates, Avicenna
4. S.P. Botkin

5. Ecology is a science
1. On the interactions of the human body with the environment
2. Protection of soil, water, air
3. On the harmonious development of the body
4. On the relations of flora and fauna with their habitat

6. Environmental factors are divided into three large groups:
1. Abiotic, biotic, anthropogenic
2. Endogenous, radioactive, natural
3. Complex, background, mixed
4. Chemical, physical, biological

7. Urbanization is:
1. Migration of the population from villages to cities
2. A global process that transforms cities
3. Process of industry concentration in cities
4. Increase in the number of cities

8. Primary prevention is:
1. Prevention of harmful factors on health
2. Sanitary supervision
3. Clinical examination
4. Prevention of diseases in healthy people

9. Secondary prevention is:
1. Prevention of diseases
2. Sanitary supervision
3. Sanitary and hygienic measures in the health facility
4. Preventive measures among people who are ill

10. The basis for the regulation of harmful substances is:
1. Principle of threshold setting
2. Biological effect on the body
3. Physico-chemical properties of bodies
4. Concentration of harmful substances in the air

11. Preventive sanitary surveillance is:
1. Review of a building project and complex examination of objects to be built or reconstructed
2. Prevention of adverse environmental effects
3. Biological effects on humans
4. Environmental protection

12. Water requirements for hospitals per bed
1. 40-60
2. 70-100
3. 150-200
4. 250

13. Norms of water consumption for polyclinics per visitor:
1. 30-40
2. 50-60
3. 5-10
4. 15-20

14. Norms of water consumption for schools (per pupil)
1. 20
2. 15
3. 10
4. 5

15. Characteristic features of water related epidemics:
1. Simultaneous occurrence of a large number of diseases
2. Isolated cases of disease are recorded
3. Slow rise in the incidence
4. Disease related to water sources

16. Water defluoridation is used for the prevention of:
1. Endemic fluorosis
2. Kashin-Bek disease
3. Dental caries
4. Deformations of bone tissue

17. Fluoridation of water prevents:
1. Dental caries
2. Dyspepsia
3. Selenium disease
4. Kashin-Bek disease

18. Water methemoglobinemia is observed with:
1. Nitrate excess
2. Low-mineralized water
3. Salt excess
4. When the chloride content is higher than the maximum permissible concentration(MPC)

19. Cause of endemic goiter:
1. Low iodine content in water and foods
2. The use of water with a high content of salts
3. High content of iodine in food products
4. High content of microelements in water

20. The causes of fluorosis:
1. High content of fluorine in soil
2. Consumption of water with 0.9 mg / L fluorine content
3. Low fluorine content in water
4. Insufficient nutrition

21. One of the etiological factors in the development of nephrolithiasis is what water:
1. Hard water
2. Soft water
3. Chlorinated water
4. Atmospheric water

21. Prolonged consumption of water with a high content of sulfates causes:
1. Gastritis
2. Diarrhea
3. Water-salt metabolism disturbance
4. Cholecystitis
5. Hypertensive disease

22. Water hardness is determined by the content in it:
1. Salts of calcium and magnesium
2. Chlorides
3. Aluminum
4. Nitrites

23. The content of ammonium, nitrites and nitrates in water shows:
1. Long-standing and persistent pollution
2. Fresh contamination
3. Self-cleaning processes
4. Pollution of water by microorganisms

24. Organoleptic indicators of water quality include:
1. Transparency
2. Color
3. Hardness
4. Oxidizability

25. Substances of positive physiological value:
1. Calcium
2. Sulphates
3. Lead
4. Manganese

26. With normal chlorination, residual chlorine is equal to (mg / L):
1. 0.3-0.5
2. 0.6
3. 0.8 -1,2
4. 2.0

27. Types of water supply:
1. Centralized, decentralized
2. Artesian
3. Pipeline
4. Spring

28. Interstratal waters are characterized by:
1. Low temperature, constancy of composition
2. Low production rate
3. Good taste
4. The depth of occurrence is 10 m.

29. Zones of sanitary protection of water sources have the following belts:

1. Strict regime belt, restrictions
2. Non-dangerous belts
3. Dangerous
4. Safe, protective belts

30. Basic ways to improve water quality:
1. Coagulation, sedimentation, filtration
2. Decoloration, decontamination
3. Desalination, fluoridation
4. Decontamination, clarification

31. Ultrasound for drinking water is used in:
1. Disinfection
2. Degassing
3. Coagulation
4. Conservation

32. Silver for drinking water is used in:
1. Disinfection
2. Coagulation
3. Deodorization
4. Decontamination

33. Ozone for drinking water is used for:
1. Disinfection
2. Coagulation
3. Softening
4. Degassing

34. Clarification of water is:
1. Freeing water from colloidal material
2. Precipitation of microbial lime
3. Removing the odor and flavor of water
4. Elimination of water color

35. By the decoloration of water it is understood:
1. Elimination of the color of water
2. Elimination of turbidity of water
3. Freeing water from suspended particles
4. Freeing water from excess salts.

36. Aluminum sulphate for drinking water is used for:
1. Coagulation
2. Decontamination
3. Deodorization
4. Softening

37. Water chlorinating is monitored using:
1. Residual chlorine
2. The content of pathogenic microflora
3. The microbial number
4. The content of organic substances

38. Silver nitrate as water quality improver is used for:
1. Conservation
2. Water softening
3. Water decontamination
4. Degassing

39. Ultraviolet rays are used for:
1. Disinfection

2. Coagulation
3. Conservation
4. Removal of odors and flavors of water.

40. Reagents used for water coagulation:
1. Aluminum sulphate
2. Sodium hyposulfite
3. Potassium iodide
4. Fluorine

41. Water deodorization is:
1. Elimination of odors and flavors of water
2. Removal all salts from water
3. Reduction of the fluorine content in water
4. Addition of fluorides into water for the prevention of dental caries

42. Methods for purification of water from radioactive substances:
1. Decontamination
2. Deodorization
3. Conservation
4. Coagulation.

43. Sewerage system of populated areas:
1. Combined and separate sewer system
2. Local, yard sewer system
3. Centralized, reclaiming, mixed
4. Central, local, mixed

44. The cleaning of populated areas includes:
1. Removal of solid refuse / planned cleaning on a yard-by-yard and home-by-homet basis/
2. Sewerage
3. Local cleaning
4. Burning

45. Soil consists of:
1. Humus, vegetable soil
2. Living organisms and human wastes
3. Solid matter and wastes
4. Solid, liquid phases
5. Gaseous and alive phases

46. Self-cleaning of soil includes processes:
1. Mineralization, humification
2. Washing out, absorption
3. Deamination, sedimentation, filtration
4. Neutralization, hydrolysis

47. Soil methods of wastewater treatment:
1. Fields of irrigation, plowing up
2. Incineration plants
3. Improved landfills
4. Methods of filtration

48. Infectious diseases are transmitted through soil:
1. Tetanus, gas gangrene, anthrax
2. Smallpox, glanders, paratyphoid, diphtheria
3. Varicella, ascariasis, hepatitis, plague
4. Dysentery, typhoid fever, leptospirosis

49. The following concepts are used to characterize the humidity of air:
1. Absolute humidity

2. Dew point
3. Temperature and air motion
4. Condensation

50. The indoor optimum relative humidity:
1. 40-60%
2. 60-80%
3. 20-40%
4. 80-90%

51. The physical properties of air include:
1. Temperature, humidity and air motion
2. Atmospheric pressure, solar radiation
3. Ionization of air, electromagnetic fields of radio waves, air radioactivity
4. Mechanical impurities of air

52. List the main biological effects of UV radiation:
1. General-stimulating
2. Bactericidal
3. Photochemical
4. Thermal

53. Under the influence of high temperatures, what metabolism is affected first:
1. Water-salt
2. Protein
3. Carbohydrate
4. Fatty

54. To assess the human thermal state, the following indicators are used:
1. Body and skin temperature
2. Pulse and respiration rate, blood pressure
3. Sweating, subjective feelings of a person
4. Temperature of air and body

55. What kind of humidity can be determined with the help of a hygrometer:
1. Elative
2. Maximum
3. All types of humidity
4. Dew point

56. To determine the humidity of air, the following instruments are needed:
1. Hygrometer
2. Barometer
3. Krotov's apparatus
4. Anemometer

57. To measure low air motion, the following instruments are required:
1. Katathermometer
2. Thermometer
3. Hygrometer
4. The hygrograph

58. What chemical atmospheric air pollution are most widespread:
1. Sulfuric acid gas, carbon monoxide
2. Dust, nitrogen oxides
3. Smoke and soot
4. Resinous substances

59. Effect of atmospheric air pollution on human health:
1. Chronic (specific, nonspecific) effect
2. Blastomogenic
3. Toning effect

4. Sub-acute effect

60. An increase in carbon dioxide in the inspired air to 4% causes:
1. Euphoric
2. Uncoordinated movement
3. Headache
4. Buzzing in ears, palpitations

61. Air exchange rate is:
1. The number indicating how many times the air in the room is replaced per hour
2. Quality of the air entering the room
3. Amount of indoor air per person
4. Room air cube

62. Maximum permissible concentration of CO_2 in indoor air:
1. 0. 03-0. 04%
2. 0. 5%
3. 0.2%
4. 0.06-0.1%

63. In case of insufficient ventilation of gasified apartments the following can be observed:
1. Accumulation of toxic products, aerosols, aromatic hydrocarbons
2. An Increase of air humidity
3. Death of indoor plants, corrosion of metal objects
4. Emission of aromatic hydrocarbons, chloride air

64. By the method of supply and removal of air, ventilation systems are divided into:
1. Supply and exhaust ventilation
2. Supply ventilation
3. Exhaust ventilation
4. Recirculation system

65. Permissible level of noise in dwelling buildings:
1. 45 dB
2. 25 dB
3. 35 dB
4. 55 dB

66. The city is divided according to functional criteria into the following zones:
1. Residential (settlement) zone
2. Transport and storage
3. Suburban
4. Workers' settlements

67. Main measures for the protection of the urban environment:
1. Sanitary and technical
2. Organizational
3. Organization of residential areas
4. Scheduled activities

68. The fight against urban noise is carried out in various directions:
1. Architecture and planning
2. Administrative, educational
3. Change of technological process
4. Improving the design of tools.

69. The composition of the residential/settlement zone includes:
1. Residential quarters
2. Public buildings, streets, squares
3. Green plantations of public use
4. Utility and warehouse area

70. The hygienic feature of green plantations :
1. Reducing the adverse effect of ambient air
2. Regulation of thermal and radiation conditions
3. Creating good hygienic conditions
4. In urban planning

71. Percentage of tree and shrub planting of the residential area:
1. 41%.
3. 45%
4. 95%
5. 15%

72. The climate is:
1. Weather regime over a long period
2. Regular sequence of meteorological processes
3. Weather regime commonly taking place every year
4. Climate of a limited space

73. The climate is made up of climate-forming factors:
1. Terrain relief, features of the surface
2. Geographic latitude, longitude
3. Atmospheric pressure
4. Air circulation

74. The acclimatization process is:
1. Long-term adaptation to new climatic conditions associated with the formation of a new dynamic stereotype as a result of temporary and constant reflex connections being established with the external environment through the central nervous system
2. Adaptation to a complex of environmental factors with the formation of a new dynamic stereotype through the functional systems of the human body.
3. Adaptation to industrial environment climatic conditions with the formation of a new dynamic stereotype
4. Adaptation to new climatic and socio-industrial conditions

75. The entire territory of the CIS, depending on the temperature regime, is divided into the following climatic regions:
1. Moderate, cold
2. The climate of permafrost
3. Marine, local
4. Steppe climate

76. The mountain climate is indicated for the treatment of:
1. Anemia
2. Hypertensive disease
3. Gastric and duodenal ulcer
4. Bone tuberculosis

77. Weather is determined by a complex of meteorological factors:
1. The terrain relief, the velocity of air movement, humidity
2. Atmospheric pressure
3. Temperature and air humidity
4. The electrical state of the atmosphere

78. Meteotropic diseases are diseases caused by:
1. Changing weather
2. Biorhythms
3. Microclimate
4. Solar radiation

79. Microclimate is:

1. The climate of closed spaces
2. The climate of the ground air layer of small areas of the earth's surface
3. The state of the air environment in a given period of time in a given local point
4. Long-term weather regime

80. Factors determining the microclimate:
1. Humidity, air temperature, air velocity
2. Infrared radiation
3. Radio waves, ionizing radiation
4. Humidity, atmospheric pressure

81. List the functions of the visual analyzer, which are affected by the level of illumination:
1. Visual acuity
2. Stability of clear vision
3. Spectral composition of light
4. Brightness of the lluminous flux

82. The natural lighting of rooms depends on:
1. Area of rooms, depth of room
2. The orientation of the building and windows, the height of the building, the number and area of windows
3. Time of day, season, weather
4. Interior, geographical latitude

83. For the hygienic assessment of the level of natural illumination in a room, the following indicators are used:
1. Coefficient of natural illumination (CNI), angle of the aperture, angle of incidence, light coefficient / LC
2. CNI, microclimatic conditions, orientation of windows by cardinal point
3. Specific density, W / m2
4. Depth coefficient, distance between buildings, insolation

84. Artificial illuminance is determined using:
1. Lux meter, "watt" estimation method
2. Rheometer
3. Geometric method
4. Ampermeter

85. Artificial lighting systems include:
1. Type of light sources
2. Electric incandescent lamps, luminescent lamps
3. Luminescent light sources
4. General, local, combined illumination

86. Types of light fixtures:
1. Of direct, reflected and diffused light
2. Filament lamps, ShOD-2-40, luminescent lamps
3. Direct, not direct, combined
4. Matte balls, lunette, incandescent lamps, bra (wall-lamps)

87. What kind of lighting system should I used in the operating room?
1. Combined
2. Gas discharge lamps
3. Electric incandescent lamps
4. Number and power of lighting fixtures

88. A kind of hospital construction, which is free of the duplication of premises and equipment, shortens the way patients and staff move to diagnostic rooms. It is:
1. Centralized

2. Mixed
3. Decentralized
4. Centralized building block construction

89. The hospital's bed capacity is determined depending on:
1. Hospital profile (tuberculosis, general, etc.)
2. Prospects for the development of the city
3. The population of the region served by it
4. Land plot size

90. The width of the protective green strip along the perimeter of the hospital area:
1. 15m
2. 20 m
3. 25 m
4. 8 m

91. General hospitals should be situated :
1. In the city center, on quiet streets
2. Far from residential areas
3. Evenly, within the plan of a residential area
4. At a distance from noise sources

92. The sound level in the territory of hospitals should not exceed:
1. 50 dB
2. 35 dB
3. 45 dB
4. 40 dB

93. Recommended built-up density (percentage) of a hospital sites:
1. Not more than 15%
2. Not more than 20%
3. Not more than 25%
4. 20-30%

94. Percentage of planting in a hospital site (%):
1. At least 60
2. No more than 15
3. 10-154.
4. 30-40

95. What hospitals it is advisable to situate on the outskirts of a residential place:
1. Tuberculosis, psychiatric
2. Multidisciplinary
3. General hospitals
4. Specialized

96. Distance of medical buildings from the border of the hospital site:
1. At least 15 m from the red line
2. On the red line of a built up area
3. At least 30 m from the red line
4. 5 m

97. The following hospitals are distinguished by the profile (their task area, speciality):
1. Centralized, pavilion-type hospitals
2. Multidisciplinary, specialized
3. Block construction hospitals
4. Oblast-, city-level hospitals

98. The necessary area of the hospital garden per one bed (sq. m.)
1. 25
2. 10
3. 35

99. The accommodation of the central kitchen unit should meet meets the hygienic requirement:
1. In a freestanding building
2. In the basement of one of the therapeutic premises
3. On the top floor of the main building
4. In the annex to the building

100. Composition of the ward section:
1. Wards, treatment-and-support facilities
2. Maintenance and support rooms
3. Toilet facilities, doctors' offices
4. Solarium, laboratory

101. Premises of the ward section, which must have natural lighting:
1. Wards
2. Corridor
3. Toilet for patients
4. Lavement room

102. Rules for arrangement of beds in a multi-bed ward:
1. Parallel to the windows
2. More than three rows
3. At a distance of 0, 5 m from the light-bearing wall
4. In the immediate proximity to the light-bearing wall

103. By t the current design standards the space per patient in a multi-bed ward is:
1. 7 sq. m
2. 9 sq. m
3. 4,5 sq. m
4. 10 sq. m

104. Rooms of the ward section, which should be oriented to the south (south of 45°north latitude)
1. Wards
2. Resuscitation halls
3. The doctor's office
4. Day-care room

105. In the currently used construction of hospitals the corridor built-up scheme is:
1. Partial, two-sided
2. One-sided
3. Two-sided
4. Two-corridor sections

106. The width of the ward corridor шы:
1. At least 2,
2. 2m
3. 1, 5-2m
4. At least 1 m

107. The required air temperature in a ward for patients with hypothyroidism should be:
1. 24 ° C
2. 21ºC
3. 23 ° C
4. 19 ° C

108. The required air temperature in a ward for premature, injured, suckling and newborn children should be:
1. 25 ° C
2. 20 ºC
3. 21 ° C

4. 19 ° C

109.The necessary air temperature in wards for patients with thyrotoxicosis should be:
1. 15ºC
2. 20ºC
3. 22ºC
4. 18ºC

110. The permissible noise levels in hospital wards are set to no more than:
1. 45 dB
2. 55 dB
3. 65 dB
4. 75 dB

111. The air comfort in hospitals is ensured by two factors:
1. Air exchange rate and air cubic size per person
2. Air temperature and humidity
3. Microclimate and concentration of metabolic products
4. Air velocity and chemical composition

112. Air conditioning in hospitals is recommended:
1. In operating rooms, anesthetic rooms
2. For hypertensive patients
3. In the wards for premature and infirm children
4. In kidney, liver, gastrointestinal disease

113. In hospital premises, the air in-flow must exceed the exhaust out-flow:
1. Operating, delivery rooms
2. Wards for adults
3. Boxes and semi-boxes
4. Reception and exam rooms

114. Synthetic medical-purpose polymers must meet the following requirements:
1. Not to be an allergen
2. Not to cause poisoning of the body
3. Not to disturb the electrolytic balance of the body
4. Not to be a carcinogen

115. In the presence of centralized water-supply and sewer system in a hospital, the rate of water consumption per day per bed should be:
1. 200-350 L
2. 100-150 L
3. 150-200 L
4. 360-450 L

116. The minimum amount of water required for rural hospitals with local water supply and a small sewage system.
1. 50-90 L
2. 20-40 L
3. 100-150 L
4. 200-250 L

117. The recommended placement of the surgery bloc in the hospital building:
1. In the dead-end area of a hospital department, at the gable end of the building
2. In the ward section of a surgical department
3. In a separate building
4. In the department of functional diagnostics

118. Operating room is designed based on 1 operating table per:
1. 30 hospital beds
2. 15 beds of the surgical department
3. 36 square meters of the floor space

4. 30 surgical beds

119. The rate of air exchange in the operating room should be:
1. At least 10 times per hour
2. 12-15 times per hour
3. 2-3 times per hour
4. 20-35 times per hour

120. Self-contained supply and exhaust ventilation systems include:
1. Operating blocs
2. Single and double-bed wards
3. Infectious patient boxes
4. Doctor's office

121. Features of the planning of the infectious disease department:
1. Separate building with a system of reception-and-exam boxes
2. Separate entrance and sanitary inspection room for staff
3. The presence of a room to discharge patients in each department
4. Centralized reception department

122. Advantages of box-based infectious disease departments in comparison with departments consisting of wards.
1. Group isolation of patients with the same disease
2. The possibility of isolating patients with different infections
3. Isolation of patients by age, sex
4. Partial elimination of nosocomial infections

123. The internal layout of the box differs from the semi-box in:
1. The presence of sanitary facilities
2. The presence of a street porch
3. The presence of a food transfer cabinet
4. Number of beds

124. Windows of wards and boxes in the infectious disease department are prohibited to be oriented to:
1. Southeast
2. South and Southwest
3. North
4. West and East

125. Methods used in the hygiene of children and adolescents:
1. Method of hygienic observation, natural hygienic experiment, laboratory experiment, sanitary-statistical method
2. Sanitary-statistical, method of graduated loads, toxicological
3. Survey, physiological, biochemical
4. Somatoscopic, demographic, epidemiological

126. In determining the biological age of a growing organism, the following should be taken into account:
1. The length of the body, pattern of annual increases in the growth, the degree of puberty
2. The state of the dental system
3. Age periods
4. Physiometric methods

127. Give the definition of the concept of "Physical Development" - is:
1. A set of morphological and functional properties of the organism, characterizing the process of its growth about maturation

2. Quantitative changes in the body, associated with an increase in the mass of individual organs and the whole body
3. Change in function of both individual organs and systems, and the whole body
4. A combination of somatometric and somatoscopic indicators

128. The main features of growth and development of children and adolescents:
1. Non-simultaneous growth and development of individual organs and systems
2. Gender dependence of growth and development
3. Biological reliability of functional systems, dependence on genetic and environmental factors
4. High motor activity, increased metabolism

129. The evaluation of physical development is important for:
1. General characterization and assessment of individual health status
2. Evaluation of the effectiveness of treatment-and-prophylactic and health-strengthening measures
3. Characterization of the sanitary state of the child population for different periods of time.
4. Health assessment in different years

130. The physical development of children and adolescents is determined by the following criteria:
1. Anthropometric
2. Sexual development
3. Somatometric
4. Physiometric

131. In the complex assessment of the physical development of children, the following is taken into account:
1. Morbidity of children and adolescents
2. Morphofunctional state
3. Body weight
4. Chest circumference

132. Methods of individual assessment of the physical development of children:
1. According to the standards tables
2. Calculation of the development criterion
3. Sigmatic deviations
4. Assessment tables

133. Acceleration is:
1. Accelerated physical development of children
2. The onset of puberty at an earlier age
3. Changes in the rate of age development
4. Acceleration of the process of growth and development at an earlier age

134. Name the exogenous causes (theories) of acceleration:
1. Alimentary
2. Changes in cosmic radiation background
3. Heterozygous
4. Genetic
5. Neurogenic

135. Name the endogenous causes (theories) of acceleration:
1. Alimentary
2. Neurogenic
3. Heterozygous
4. Genetic

136. "School maturity" is:
1. Functional maturity of the main physiological systems of the body by the time a child enters school providing him with education without harm to health
2. The body's physical readiness for systematic schooling
3. Functional readiness of the body to study at school
4. The level of neuropsychic development is age appropriate.

137. The hygienic principles of a site for children's institutions include:
1. Observance of the principle of group isolation
2. Proximity to the place of residence
3. Being distant from air polluting or noise producing enterprises.
4. From major highways, from places of mass visits

138. School buildings should not exceed:
1. 3 storeys
2. 5 storeys
3. 7 storeys
4. 2 storeys

139. Hygienic requirements to the standard classroom:
1. The area of at least 50 square meters
2. Cubic capacity not more than 23 cubic m
3. The length of the classroom is not more than 8,2 m
4. Width no more than 6. 1 m

140. The area per student should be:
1. Not less than 1.25 sq m
2. Not more than 2 sq m
3. Not more than 1 sq m
4. Up to 1.75 sq m

141. The distance between the rows of tables in the laboratory should be:
1. 60-70 cm
2. 50 cm.
3. 35-45 cm
4. 80 cm

142. Group areas in the nursery group should be per 1 child:
1. 5 sq.m.
2. 4 sq.m.
3. 2 sq.m.
4. 6 sq.m

143. Children's day nursery facility is designed:
1. In one, separate building no more than 2 floors
2. In a building up to 3 floors
3. In a separate building with a separate building for office and service departments
4. On the territory of at least 3 hectares

144. To prevent the development of myopia in a student, the optimal distance from the book to the eyes should be:
1. At a distance of 30-35 cm
2. At a distance of 10-15 cm
3. At a distance of 15-20 cm
4. At a distance of 20-25 cm

145. The coefficient of natural illumination in the room for technical drawing should be:
1. At least 2%
2. 1,0%
3. Up to 1,5%
4. Not less than 0,75%

146. Illumination on the desk should be for:
1. Incandescent lamp not less than 150 lux, luminescent - 300 lux
2. Incandescent lamps not less than 250 lux, for luminescent ones - 500 lux
3. Incandescent lamps - 50 lux, luminescent lamps - 150 lux
4. Incandescent lamps not less than 100 lux, for luminescent ones - 500

147. Hygienic assessment of toys should consider the following requirements:
1. The toy must be comfortable, safe and harmless
2. Making toys from new synthetic materials
3. The most hygienic toys are stuffed toys
4. Toys should be according to the strength of the child.

148. When designing children's institutions with a large number of groups, it is more appropriate to construct the building as:
1. Decentralized
2. Centralized
3. Block construction
4. Isolated

149. The duration of sleep in children aged 7-10 years is:
1. 11-10 hours
2. 9 hours
3. 7-8 hours
4. More than 12 hours.

150. The distance of the first row of desks from the blackboard should be:
1. Not less than 1,6 m
2. Not more than 1m
3. Not less than 1, 6m
4. At least 1, 5m
5. At least 1, 2m

151. The distance from the school building to the red line should be:
1. Not less than 15m
2. Not less than 20m
3. Not less than 25m
4. Not more than 15m

152. Professional (career) orientation is:
1. A scientifically based system of measures to help teens choose a profession taking into account their interests and inclinations, as well as the health and needs of the national economy for manpower
2. Assistance to graduates in choosing a profession
3. The system of training pupils for the national economy
4. Special discipline to determine the needs of society in the workforce.

153. The method of assessing physical development according to scoring tables which is commonly used, is called:
1. Regression scale
2. Development scale
3. Progression scale
4. Correlation Scale

154. Days of the week in which the highest performance is observed among students:
1. Tuesday, Wednesday
2. Wednesday, Thursday
3. Thursday, Friday
4. Friday, Saturday

155. A lesson at which the highest performance of schoolchildren is observed:
1. Second
2. Fourth
3. Fifth
4. Sixth

156. The recommended duration of lessons for younger pupils:

1. 30-35 minutes
2. 10-15 minutes
3. 20-25 minutes
4. 40-45 minutes

157. Sustainability of attention of children of 13-15 years:
1. 30 minutes
2. 10 minutes
3. 20 minutes
4. 25 minutes

158. Active attention lasts for 25 minutes in children:
1. 11- 12 years
2. 3-5 years
3. 5-7 years
4. 8-10 years

159. When developing a daily routine, it is necessary to take into consideration:
1. Quantity and quality of the workload
2. Regular meals
3. Alternating different types of activities
4. Their optimal duration, regularity, rest

160. Principles of organizing physical education:
1. Differential use of means and forms, systematicity, integralness
2. Taking into account the density of classes, determining the degree of fatigue
3. Optimal motor regime
4. Compliance with sanitary and hygienic requirements for environmental conditions, doctor's check

161. Principles of hardening:
1. Gradual, systematic, integral, taking into accounting a reaction to the stimulus
2. Accounting for health
3. Individual features of development
4. Compliance with sanitary and hygienic standards for places where hardening is conducted

162. The health index is:
1. The proportion of children who have not been ill for the year even once, as a percentage from the number of those examined
2. The number of children who were sick 4 times or more during the year.
3. Accounting for all cases of diseases per year per 100 served
4. The number of children who were sick no more than 2 times during the year.

163. One of the signs of spinal deformity is:
1. Kyphosis
2. Conical chest
3. Stooping
4. Straightened posture

164. Children with functional abnormalities after previous diseases, suffering from frequent acute illnesses, having a moderate visual impairment belong to the group of health:
1. Second
2. Fourth
3. Third
4. First

165. Hygienic requirements to nutrition:
1. The energy value of the diet should compensate for the energy expenditures
2. Balanced nutrition (nutrient content in optimal quantities and ratios)
3. Correct eating (meals) regime
4. Diversity, a wide range of products of animal and vegetable origin

166. Rational nutrition is nutrition:

1. Providing energy, plastic substances and other needs of the body
2. Balanced, ensuring the supply of all essential nutrients
3. Adequate in quality
4. Adequate in quantity

167. A balanced diet provides for:
1. Optimal quantitative and qualitative relationships of major nutrients
2. The optimal body's need for biologically active substances
3. The energy requirements of the body
4. A certain set and amount of basic nutrients

168. Nutritional status is:
1. Health assessment as an indicator of the nutritional state
2. Nutrition associated with excess intake of nutrients
3. Nutrition associated with insufficient intake of nutrients
4. Matching between the enzymatic systems of the body and the chemical composition of food

169. Diseases of nutritional deficiency include:
1. Alimentary dystrophy, marasmus
2. Obesity, scurvy
3. Cachexia, vitamin deficiency
4. Osteoporosis, hypertension, diabetes mellitus

170. The diseases of hyper-nutrition include:
1. Gout, metabolic polyarthritis
2. Gallstone disease
3. Diabetes
4. Protein-energy wasting, kwashiorkor

171. There are the following forms of pathological conditions associated with improper feeding:
1. Undernutrition, overeating, specific form (caused by relative or absolute deficit in one or several nutrients), unbalanced nutrition
2. Overeating, unbalanced nutrition
3. Malnutrition, imbalance
4. Nutritional deficiency, hyper-nutrition

172. Methods for assessing the nutritional status of children:
1. The method of theoretical calculation of dietary menus, of determination of the balance
2. The method of theoretical calculation of dietary menus, determination of fat content in raw and cooked foods
3. Laboratory method, weight method, questionnaire survey
4. Chemical, physical, biological, weight, budget methods

173. School meals should be differentiated by:
1. Age into 3 groups
2. From the performed physical activity
3. Gender into 2 groups
4. Depending on the time-table into 4 groups

174. The daily energy expenditure of the body consists of:
1. Basal metabolism, specific dynamic action of food
2. Various types of professional activity
3. Various types of activities
4. Maintaining tissue respiration.

175. Energy sources include food products:
1. Food fats
2. Sugars and sugary products
3. Rich in proteins
4. Rich in fats and carbohydrates

176. Classification of nutrients:

1. Proteins, fats, carbohydrates, vitamins, minerals, water, flavoring substances
2. Dyes, flavorings, minerals
3. Plastic, energy
4. Natural, mixed

177. Phospholipids contained in food contribute to:
1. It plays an essential role in the metabolism between cells and intracellular space
2. Maintaining ionic balance in the body
3. Building bone and muscle tissue of the growing organism
4. Forming up the plastic and energy process

178. Lecithin in foods:
1. Promotes the removal of cholesterol from the body
2. Stimulates the activity of a number of important enzymes
3. Participates in the maintenance of ionic equilibrium in the body
4. Participates in the formation of bones in the body

179. The body's need for basic nutrients in children depends on:
1. Gender, age, health status, social activity
2. Exercise performed
3. Climatic conditions, motor activity
4. Health status, time of day

180. Fiber does the following in the body:
1. Provides up to 50-60% of the body's need for energy
2. Participates in protein metabolism
3. Promotes the excretion of cholesterol from the body and stimulates the intestinal prolapse
4. Participates in protein and carbohydrate metabolism

181. Complex carbohydrates include:
1. Starch, glycogen, pectin substances, fiber
2. Glucose, saccharose, lactose, starch
3. Fructose, galactose, maltose.
4. Glucose, fructose, glycogen, starch

182. Food sources containing plastic substances:
1. Animal origin
2. Dairy products
3. Vegetable and animal fats
4. Plant origin

183. Polyunsaturated fatty acids are mainly contained in fats:
1. Fats of all fish
2. Beef fat
3. Mutton fat
4. Pork fat

184. The main source of all types of essential amino acids are:
1. Meat
2. Cereals
3. Vegetables, fruits
4. Soy, peas

185. For an adult, the essential amino acids are:
1. Lysine, phenylaline, leucine, threonine, valine
2. Riboflavin, ATP (adenosine triphosphate)
3. Arginine, histidine
4. Retinol, carotene, lysine, methionine

186. The biological value of proteins is determined by:
1. Amino acid composition

2. Presence of histidine
3. The ability to form protein compounds (actomyosin)
4. The presence of polyunsaturated fatty acids

187. For children's age, how many amino acids are essential?
1. 9 amino acids
2. 12 amino acids
3. 6 amino acids
4. 19 amino acids

188. What refers to protein deficiency:
1. Alimentary dystrophy, marasmus, kwashiorkor
2. Myxedema, urticaria
3. Asthenia
4. Food dystrophy

189. Give an exact definition. Vitamin is:
1. Low molecular weight organic compounds, biologically active in low concentrations and strictly essential for the vital activity of the organism
2. Additional substances whose special purpose is only the prevention of the development of avitaminosis or its cure.
3. Physiologically active in small amounts of organic compounds involved in the metabolism
4. Organic compounds involved in metabolism

190. Classification of vitamins:
1. Water-soluble vitamins, lipid-soluble vitamins, vitamin-like substances
2. Vitamins or vitamin-like substances proper
3. Water soluble, fat soluble,
4. Vitamins synthesized in the human body and not synthesized

191. The main physiological significance of vitamin C:
1. Maintains the normal state of the capillary walls
2. Increases the body's resistance to the effects of meteorological factors.
3. Protects bones from osteochondrosis
4. Neutralizes industrial poisons

192. Indicate the highest content of vitamin C, mg%, in fruits and berries:
1. Black currant
2. Lemons
3. Oranges, tangerines
4. Grapes, gooseberries

193. Indicate the highest content of vitamin C, mg%, in vegetables:
1. Sweet pepper
2. Green onions
3. Radish, radish
4. Cauliflower, white cabbage

194. Diseases are transmitted to man through meat:
1. Helminthiasis
2. Food toxicoinfections
3. Infectious diseases
4. Diphtheria, measles

195. Milk proteins include:

1. Casein, albumin
2. Lactoalbumin, tryptophan
3. Immunoglobulins, lysine
4. Vitellin, methionine

196. Diseases of animals transmitted to humans through milk:
1. Brucellosis, tuberculosis
2. Anthrax, foot and mouth disease
3. Plague, pneumoriketsiosis
4. Echinococcosis, diphtheria

197. Food concentrates are:
1. A mixture of dried food technologically prepared for fast cooking and hermetically sealed
2. Mixtures prepared using freeze drying
3. Preparations made by vacuum drying
4. Mixtures that have been subjected to high osmotic pressure treatment

198. Food poisoning is:
1. Acute disease caused by the consumption of infected food or food containing toxic substances
2. Disease caused by eating infected food
3. Acute infectious disease caused by microflora
4. Chronic infectious diseases

199. "Occupational hygiene" is a science that studies:
1. Influence on the human body of the labor process and factors of the working environment with the aim of scientific substantiation of standards and means of prevention of occupational diseases and other adverse effects of working conditions on workers
2. The impact of working conditions on workers, and develops preventive measures aimed at creating healthy working conditions and increasing its productivity
3. The influence of working conditions on the body of workers
4. Increasing labor productivity and developing preventive measures.

200. Work heaviness is:
1. The load on the body during labor, requiring muscular effort and adequate energy supply
2. Characteristics of labor requiring intensive work of the brain
3. Functional stress in all types of work
4. The load on the body during physical labor

201. The concept of occupational disease. This is a disease:
1. Caused by exposure to a harmful factor in the conditions of work/occupation and confirmed in the prescribed manner
2. Caused by exposure to a harmful chemical factor under occupational conditions.
3. Caused by toxic poison
4. Caused by industrial poison

202. Byssinosis is an occupational disease that develops when exposed to:
1. Dust of cotton, flax, hemp, jute, kenaf
2. Quartz dust containing free silica
3. Mineral dust containing silica
4. Metal (iron, barium, tin) dust

203. What is noise? Noise is:
1. A total of sounds of different frequency and intensity, randomly changing in time and causing unpleasant subjective feelings
2. The sound arising from the operating production equipment
3. The combination of sounds
4. Audible air vibrations

204. Fatigue is:
1. Temporary decrease in performance caused by work
2. Limiting inhibition in the cerebral cortex
3. The pathological condition of the body in excessive work
4. Decreased performance

205. Health improving measures at industrial enterprises:
1. Therapeutic and prophylactic
2. Sanitary
3. Organizational and technical
4. Sanitary and educational

206. With regard to the improvement of working conditions in industrial enterprises, sanitary and technical measures include:
1. Individual protective equipment
2. The study of workers' morbidity
3. Periodic medical examinations
4. Aeration

207. Hygienic assessment of working conditions at industrial enterprises consists of:
1. Making up a detailed sanitary characterization of the worker's profession
2. Conducting the timing of work done
3. Evaluation of working conditions
4. Clinical surveillance

208. The main causes of occupational injuries are factors:
1. Sanitary and hygienic requirements
2. Occupational chemical factors
3. Occupational biological factors
4. Occupational physical factors

209. Fortification structures are divided into:
1. Open, closed
2. Pits, trenches
3. Communication trenches
4. Excavated

210. The basic hygienic requirements of human clothing include:
1. Strength, breathability, thermal conductivity
2. Resistance to chemical compounds
3. Hygroscopicity, elasticity
4. Suitable for season

211. The body mass index is calculated as
1 The ratio of body weight in kg to height in m2
2. The ratio of body weight in kg to height in meters
3. The product of the body weight in kg and height in m2
4. The ratio of body weight in kg to height in cm2

212. Early clinical sign of botulism
1. Ambiopia
2. Paralysis of the diaphragm
3. Stool retention
4. Normothermy

213. Control over the decontamination of water and foods is carried out by the service
1. Medical service
2. Engineering service
3. Chemical service
4. Food service

214. Mass prevention of endemic goiter in the population implies the use of
1. Iodized salt
2. Levothyroxine sodium
3. Minimum doses of thiamazole
4. Potassium iodide medicines

215. A secondary prevention strategy consists in:
1. Preventing the progression of chronic non-infectious diseases, both through correction of risk factors, and measures at timely treatment and rehabilitation
2. Dividing the population into groups according to age
3. Timely identification of persons with an increased level of risk factors and measures for their correction/mitigation
4. Promoting healthy lifestyle at the level of the entire population and ensuring appropriate conditions for this.

216. The greatest amount of potassium is contained in 100 g.
1. Potatoes
2. Cauliflowers
3. Carrots
4. Apples

217. A source of well-digestible calcium is
1. Milk and dairy products
2. Vegetables and fruits
3. Cereals and legumes
4. Meat and meat products

218. To measure the thickness of the body's fat fold,
1. Caliper
2. Height meter
3. Goniometer
4. Dynamometer

219. The Quetelet index is an indicator concerning:
1. Weight-growth
2. Vitality
3. A simple trunk indicator
4. Power

220. To assess posture, a patient should be in
1. Unusual posture
2. Lying down
3. “At attention” position
4. Sitting position

221. A contraindication for measuring back strength
1. Pregnancy
2. FirstI degree scoliosis
3. Excess body weight
4. Poor physical development

222. Special exercises in postural disorder include
1. Correcting
2. Ideomotor
3. Reflex

4. Respiratory

223. The following conditions belong tothe category of occupational diseases proper:
1. Anthracosis, vibration disease
2. Eczema, dermatitis
3. Bronchial asthma, COPD
4. Varicose veins of the lower extremities

224. Signs of iron deficiency are:
1. Brittle nails and hair loss
2. Icteric skin and sclera
3. Enlarged liver
4. Paresthesias

225. Vitamin B 12 deficiency, unlike folic acid deficiency, is manifested as
1. Funicular myelosis
2. Macrocytic anemia
3. Hyperchromic anemia
4. Megaloblastic hematopoiesis

A.1 Questions for the survey

Test questions for semester 5

Examination questions
To check students'
competence
Knowledge:
1. Hygiene as a subject, its goals, tasks and methods
2. The history and the key stages of hygiene, its founders
3. Environmental factors and their effect on the population health
4. Solar radiation, types of radiation, impact on population health
5. Light climate, biologic effect of solar radiation on the human body
6. UV radiation, its types and health effects
7. Infrared radiation, its type and health effects
8. Visible rays, their types and impact on human health
9. The structure of atmosphere. Physical properties of the air (humidity, velocity, temperature)
10. Decreased and increased atmospheric pressure depending on the terrain elevation and air temperature
11. Notion of microclimate, its types, effect of discomfort microclimate on human health
12. Weather, medical classification of weather types, meteotropic diseases
13. Definitions of climate, climate-forming factors
14. Meteotropic diseases, their types and prevention
15. Problems of human adaptation and acclimatization to different climatic conditions
16. Anthropogenic and technological pollution of atmospheric air of residential areas
17. Methods of purification of atmospheric emissions
18. The main ecological problems related to atmospheric air pollution.
19. Types of water-bodies and water-sources, water-supply systems
20. Surface waters and their hygienic assessment
21. Ground waters, their hygienic characteristics and potential for drinking water uses
22. Underground water-sources, hygienic assessment
23. Natural physico-chemical composition of water
24. Hygienic role and significance of water, water consumption norms with sewerage system availability and without it
25. Physiologic significance of water
26. Epidemiologic significance of water
27. Coagulation of water
28. Special methods for improvement of drinking water quality
29. Impact of hard water on human health
30. Global problems related to water –supply to the population
31. Types, composition and properties of soil, its hygienic significance, self-purification processes
32. Sources of anthropogenic pollution of soil
33. Significance of soil in the spread of infectious diseases
34. The role and tasks of nutrition in health promotion and preservation in modern conditions
35. Nutrition as an environmental factor, effect on population health
36. Rational health definition
37. Physiologic nutritional norms for different occupational groups of population
38. Significance and norms of animal protein consumption in a daily diet

39. Essential amino-acids, their physiologic significance
40. Significance and norms of carbohydrate consumption in a daily diet, their energy value
41. Simple and complex carbohydrates, their sources and composition
42. Animal and plant fats, their energetic and biological value
43. Vitamins, their classification, sources and causes of hypo- and hyper-vitaminoses
44. Water-soluble vitamins, consumption norms and significance in human vital activity
45. Fat-soluble vitamins, consumption norms and significance in human vital activity
46. Vitamin-like substances, their physiologic significance
47. Types and significance of microelements in human nutrition, microelementoses, their causes and prevention
48. Nutrition deficiency related diseases (cachexia, kwashiorkor and alimentary marasmus)
49. Alimentary dystrophy, its causes and prevention
50. Diseases of hypernutrition and signs (of obesity, atherosclerosis, diabetes mellitus, cholelithiasis and nephrolithiasis)
51. Vegetables and fruits, their role and significance in human nutrition
52. Food quality and safety (contamination with pesticides, antibiotics, etc.)
53. Gene engineered foods (GMO) and effects of their consumption
54. Morphological and functional specific features of children's development at different age periods
55. Physical development as health criteria, methods of assessment of physical development parameters of children and adolescents
56. The main indices of physical development of children and adolescents
57. Acceleration, modern notions of its causes
58. Hygienic requirements to the design of hospital facilities
59. Hygienic requirements to the interior planning, equipment and outfitting of the main and auxiliary premises of health care facilities
60. Hygienic requirements to water-supply, sewerage system, heating system of health care facilities
61. Hygienic requirements to lighting, ventilation, microclimate of the main and auxiliary areas of health care facilities
62. Hygienic measures to prevent fatigue and over-fatigue (overstrain)
63. The subject and goals of occupational hygiene and physiology
64. Basics of occupational physiology. Changes taking place in human physiology during work activity
65. Hygienic assessment of work intensity, tension and energy expenditures
66. Hygienic assessment of workers' labor in different climatic conditions
67. Hazardous and harmful physical, chemical, biological, psycho-physiologic occupational factors
68. Notion of occupational hazards, occupational diseases, occupational poisonings and occupational injuries
69. Types of dust, its classification, physicochemical properties and composition
70. Hazardous and harmful physical, chemical, biological, psycho-physiologic occupational factors
71. Notion of occupational hazards, occupational diseases, occupational poisonings and occupational injuries
72 Types of dust, its classification, physicochemical properties and composition
73. Specific and nonspecific diseases related to dust exposure, their consequences and prevention
74. Occupational noise, noise disease and its prevention
75. Occupational vibration, effect on health and its prevention
76. Intoxication with lead, preventive measures
77. Intoxication with mercury, preventive measures
78. Occupational hygiene in the hot shops and at work-sites of heat-power facilities
79. General features of the effect of industrial chemicals on the human body
81. Occupational hygiene in the open air, prevention of work-related trauma and pustule diseases of the skin
82. Occupational hygiene in ore and coal-mining industry
83. Occupational hygiene of laser facilities
84. Occupational hygiene in agriculture (arable farming, crop farming, livestock-breeding). Occupational hygiene and safe use of chemical pesticides and mineral fertilizers

Questions to check students' competence:

Skills

1.Determine microclimate, its types, effect of thermal discomfort on human health
2.Definition and medical classification of weather types, impact on human health
3.Determine climatic features and climatic regions on the territory of Kyrgyzstan and Russia
4.Determine the impact of hot weather on human health, measures to prevent body overheating
5.Determine the impact of cold climate on human health, prevention of overcooling and related diseases
6.Determine the impact of high altitude on human health, measures to prevent negative consequences
7.Sources of atmospheric air pollution, health effects, morbidity prevention
8.The main ecological problems related to atmospheric air pollution
9.Determine the possibility of using drinking water by organoleptic parameters of drinking water quality
10.Determine the possibility of using water for water supply of the population by chemical parameters of drinking water quality
11.Determine the possibility of using water for drinking water supply by microbiological parameters of drinking water quality
12.Determine the consequences of non-observance of sanitary protection zones for water sources (a possibility of intentional chemical, microbial contamination)
13.Determine physical and chemical methods of purification and decontamination of drinking water
14.Determine types of water hardness and methods to remove it.
15.Determine diseases related to deficiency of microelements in drinking water
16.Determine diseases related to consumption of poor quality water

17.To assess rural community purification systems and implement educational program for the population on purification, disposal of solid and liquid waste.
18.Assess systems for sanitary cleaning of cities, collection, removal, utilization and treatment of solid waste.
19.Assess the significance of the local and general sewerage system, its arrangement/construction and methods of sewage treatment
20.Educate patients on hygienic principles of healthy life-style.
21.Determine consequences of socially bad habits and their impact on the health of the population, conduct prevention activities among the population.
22.Use basic mental hygiene knowledge to keep you, patients and people near you healthy.
23.Conduct hypodynamia prevention activities and use hygienic methods to fight its consequences
24.Organize a daily regime based on the importance of physical exercise for keeping good health, active and passive rest/recreation and sleep in order to strengthen hygienic skills of the population
25.Redesign your daily routine for an optimal work-life balance a basis for healthy lifestyle and disease prevention.
26.Determine food poisonings of microbial etiology, their types and symptoms
27.Determine non-microbial food poisonings, their types and symptoms
28.Determine poisonous mushrooms and consequences of their consumption
29.Determine poisonings caused by toxins of microscopic fungi (fusariosis, mycotoxicosis, alimentary toxic aleukia)
30.Provide medical aid to victims and participate in the investigation and prevention of food poisonings
31.Determine criteria for diving children and adolescents into health groups
32.Use basics of hygienic education pre-school aged children in your activity in order to teach in the younger generation personal and public hygiene skills.
33.Use basic elements of the daily hygienic regime, for the prevention of fatigue of schoolchildren, educate parents and keep up and strengthen health of children and adolescents.
34.Conduct hygienic assessment of the learning activities at school
35.Determine school maturity and to conduct vocational guidance of adolescents
36.Use basic hygienic elements for physical education and in your educational activities.
37.Assess requirements to the sitting and design of preschool and school establishments from the hygienic point of view.
38.Assess air and temperature conditions, insolation, illumination in children's preschool establishments, their conformance to hygienic requirements
39.Determine preventive and current sanitary control of the sitting and exploitation of hospitals
40. Organize and main hygienic and infection control regime in polyclinics and non-specialized hospitals (departments, wards, etc.)

Expertise

1.Primary prevention of diseases
2.Secondary prevention of diseases
3.Tertiary prevention of diseases
4.The main ecological issues related to atmospheric air pollution
5.Methods of prevention of respiratory diseases system related to atmospheric air pollution
6.Types and methods of drinking water chlorination
7.The use of mineral waters, their effect on human health
8.Methods of prevention of endemic diseases in geochemical provinces (iodine deficiency, iron deficiency, fluorine deficiency, etc)
9.Hygienic requirements to the design/planning of settlements, the significance of city-forming factors and the structure of a modern city
10.Hygienic assessment of noise, electromagnetic radiation, their impact on the health of residents of large cities, measures to prevent negative effects
11.Hygienic assessment of building and finishing material
12.Assesment of a system of sanitary cleaning of cities, collection, disposal, utilization and decontamination of solid waste, sorting of solid waste
13.Assessment, analysis, statistical processing of health indices of the population of modern cities
14.The main sources of urban atmospheric air pollution, impact on health, preventive measures
15.Collection, decontamination and utilization of wastewater/sewage and solid domestic waste by different methods
16.Hygiene of rural dwellings, liquid and solid waste disposal
17.Soil protection measures
18.Dental and oral hygiene skills
19.Rules of personal and public hygiene
20.Hygienic requirements to clothes and shoes
21.Techniques of hardening by air, water and sun.
22.Prevention of ultraviolet deficiency
23.Hygienic assessment of synthetic detergents and household chemicals, prevention of their harmful effects
24.Individual assessment of rational nutrition, calculation of daily energy expenditure
25.Methods for the assessment of adequate nutrition
26.Hygienic basic elements of balanced nutrition
27.Determination/definition of /adequate nutrition, method of assessment
28.Organizing rational nutritional regime/a rational diet, managing percent distribution of caloric value in a daily diet
29.Determination nutrition of status and its types

30.Hygienic assessment of bread products
31.Hygienic assessment of meat and meat products, their role and significance in human nutrition
32.Hygienic assessment of milk and milk products, their role and significance in human nutrition
33.Hygienic assessment of vegetables and fruits, their role and significance in human nutrition
34.Assessment of food quality and safety (contamination with pesticides, antibiotics, etc.)
35.Hygienic assessment of equipment and outfitting of pre-school institutions and schools
36.Prevention of musculoskeletal dysfunction, postural disorders and vision disorders children and adolescents
37.Hygienic requirements to rational nutrition of children and adolescents
38.Hygienic control of nutrition provided to patients in hospitals
39.Hygienic control of quality of medical service for patients in polyclinics and in-patient departments
40.Hygienic control of provision of sanitary conditions and conveniences to patients and auxiliary personnel in polyclinics and in-patient departments
41.Organization of hygienic and infection-control regimes in infectious diseases, radiology, surgery departments, maternity homes and other specialized hospitals
42.Organization of hygiene regime of work hours, rest breaks for meal periods and auxiliary personnel in hospitals
43.Work safety of persons working in contact with dangerous and hazardous physical, chemical, biological agents in hospitals.
44.Hygienic control of personal hygiene of medical and service personnel in hospitals

LIST OF SITUATIONAL TASKS

THE LIST OF SITUATIONAL TASKS

Situational task № 1

In order to objectively monitor the sanitary condition of the therapeutic department, studies were conducted that showed the following results:

- the air temperature in the corridors was 16-18 degrees, and in the chambers 22-23 degrees, humidity 50-60%, the speed of air 0.1 m / sec;
- the content of carbon dioxide was 1.0%;
- illumination by incandescent lamps at night in the majority of wards- 30 kl, in two wards - 100 kl, in the corridor - 20 lx

Give a hygienic assessment and recommendations on the results of research

Situational task №2

The ward section of the therapeutic building, which has the "P" -shaped configuration, consists of 10 wards with a south-eastern orientation, 2 - the north-western, 3 - the north-eastern and 3 - the south-western.

- Choose a rational variant of the orientation of the wards for the insolation regime in the summer season for seriously ill patients with hypertensive crisis and myocardial infarction, for patients with hypotension, gastric ulcer, cholecystitis and convalescent patients?
-

Situational task №3

In the operating unit of the surgical department for 30 patients, after 4 operations the air temperature was -26 degrees, relative humidity 75%, carbon dioxide content 0.5%. The analysis of bacterial contamination of air, revealed single staphylococci were found.

Draw up a plan of measures to improve the air regime of the operating unit.

Situational task №4

In the working village, where there was a chemical plant, the population was provided with drinking water from an open reservoir in a centralized way. At the local water station, the water was purified by sedimentation, 70% of it was coagulated, and water was also filtered. Recently, residents began to note the deterioration of the organoleptic properties of water and the appearance of an extraneous smell in it, the microbial number is 200, the residual chlorine is not higher than 0.1 mg / l.

- What is the possible reason for the appearance of an odor in the water?
- What measures do you recommend to improve the quality and safety of drinking water?
-

Situational task №5

An analysis of the results of health and physical development survey of a 7 years old schoolchild . He showed that the deviation along the length of the body is - 2σ, by the mass + 1,8 σ and the circumference of the chest + 1,5 σ, multiple tooth caries, mild degree of myopia, sleep disturbance, expressed and prolonged sleep period, hypertrophied tonsils.

- Assess the level of physical development and health of the child.
- Draw up a conclusion with justification for recommendations for improving the health of this schoolchild?
-

Situational task №6

During one day 47 people with the same complaints were addressed to the clinic: nausea, vomiting, abdominal pain, some of the patients had have multiple loose stools. All of them were pale, cyanosis, tachycardia noted and in one patient - icteric sclera. The dinner consisted of mutton stew, tea and cake, bought at a nearby store. It turned out that the batch of cakes was sold only 18-36 hours after production. The incubation period lasted 2-4 hours. All patients recovered after 3-5 days. When examining the pastry chef, who participated in making a batch of cakes, a festering wound from a cut on his finger was found

- What could be the cause of de health terioration?
- Set the diagnosis of this disease?
- Your recommendations for determining the causes of mass diseases and their examination?
-

Situational task №7

Assess the nutritional and biological value of the therapist's breakfast:

The energy value of breakfast is 555 kcal, its qualitative composition: proteins - 22 g, fats - 28 grams, carbohydrates - 72 g, the content of calcium - 292 mg, phosphorus - 409 mg. Breakfast provides the body with iron, satisfies 1/10 of the need for vitamin A covers, 1/6 of the need for vitamin B and 1/4 for vitamin PP. C. How many grams of protein, fat and carbohydrates is missing in the daily diet of a doctor with an energy requirement of 3000 kcal.

- What percentage of daily energy expenditure is the breakfast energy value
- Your recommendations for balancing the daily diet of the doctor

Situational task №8

On September 16 at 6 pm milk in tinned jars was delivered to the village hospital . Milk of evening milking was delivered to the hospital on the waybills. The milk is white with a slightly yellowish tinge. Taste and smell is typical for milk. The presence of foreign impurities was not detected. Specific of milk - 1.030; acidity - 28 ° according to Turner; the content of solids is density 13.5%; the fat content is 2.5%.

- Give an opinion on the possibility of using the received batch of milk in the patient's diet?

Situational task №9

Extract from the individual card. Vorobyov N.S., 39 years, 19 years of working at the enterprise in the position of a locksmith-adjuster of precision instruments. He turned to the doctor of the enterprise with complaints of general weakness, fatigue, lethargy, headache, metallic taste in the mouth, drooling, bleeding gums. The worker was directed to a consultation in the clinic of occupational diseases, and then hospitalized. The state of admission: pulse - 80 beats / min, AD - 160/100, constant low back pain, gingivitis. In urine, 0.06 mg / l mercury is detected. Characteristics of working conditions. Performance of duties of the worker is related to soldering and adjustment of thermometers, mercury tonometers. There is no special room for the work. Work is carried out on a regular table without exhaust ventilation. During the hiring and during work, a medical examination took place. These complaints appeared 9 months ago.

- What is the main occupational hazard in the workplace of a locksmith and the possible causes of deterioration in health?
- What sanitary and hygienic measures should be taken to improve working conditions
- What specialists must participate in periodic medical examinations, and what kind of research should be done for this category of workers?

Situational task №10

Baked bread is brought to the student's canteen . At external examination it is established: the form is round, the surface is smooth, without cracks and foreign inclusions. The crumb from the upper crust lags behind, there are areas of impurity and hardening, uniformly porous, with crushing pressure it crumples, no extraneous inclusions; Color, taste, smell characteristic of this type of bread. Moisture 47%, acidity 9 °, porosity 55%.

- Assess the quality of bread
- Decide on the possibility of its use in nutrition and make recommendations for improving the quality of bread

Situational task №11

In the buffet of the student hostel, whole milk is delivered in packages: a homogeneous liquid of white color with a yellowish tinge. The taste and smell is normal. The aftertaste is uncertain. Density - 1,030; fat content - 3.2%, dry residue - 12.5%, acidity 28 ° according to Turner, Evaluate the quality of milk.

- Decide on the possibility of using it in students nutrition

Situational task №12

a) Determine the age of the boy with a date of birth on March 12, 1995., the date of his survey - February 16, 1999, and what age group does he belong to

b) Determine the age of the girl with the date of birth on August 20, 1990., the date of the survey is March 25, 1999, and what age group does she belong to

Situational task №13

The study of the indicators of natural illumination in the class showed that the light factor is 1: 4, the natural illumination coefficient on the desk at the inner wall is 1.5%, the actual illumination in this class is 200 lux.

- Assess the level of natural illumination in the classroom
- If necessary, make recommendations for improving illumination in the classroom
-

Situational task №14

A sick patient entered the clinic for occupational diseases, he was 31 years old, worked as a loader for 10 years, and in recent years electric welder, complained of: fatigue, memory loss, gait and speech disturbance.

Objectively: the patient has weakened muscle tone, reduced mental activity, not sharply expressed masklike face. Changes in the lungs and heart were not observed. The liver is enlarged by 1.5 cm, an anatomic gastritis.

- Define the alleged occupational hazard and pathology.
- Your recommendations for clinical examination and health improvement of the worker.

Situational task №15

Estimate the level of physical development of a girl of 9 years by the method of sigma deviations with the subsequent graphic depiction of the profile of physical development according to the data given in the table.

Table of calculating sigma deviations

Symptom	Indicators of the subject	M	σ	The difference between M and indicators	Sigma deviation
Height, cm	131,0	132,9	6,12	+ 1,9	-0,3
Weight, kg	25,2	29,7	4,1	+ 1,2	-0,2
Breast circumference, cm	65,5	63,3	5,02	+2,2	+0,44

Profile of physical development

	-3σ	- 2 σ	-1σ	M	+1σ	+2σ	+3σ
Height, cm							
Weight, kg							
Breast circumference, cm							

Situational task №16

- Assess the physical development of a 10-year-old boy using the method of sigma deviations, followed by a graphic depiction of the physical development profile, as shown in the table.

Table of calculating sigma deviations

Symptom	Indicators of the subject	M	σ	The difference between M and indicators	Sigma deviation
Height, cm	137,4	131,8	6,1	+ 4,1	+2
Weight, kg	33,4	28,7	2,4	+ 5,3	+2,9
Breast circumference, cm	65,8	63,7	3,1	+16	+1

Profile of physical development

	- 2 σ	-1σ	M	+1σ	+2σ
Height, cm					
Weight, kg					
Breast circumference, cm					

Situational task №17

In the clinic of occupational diseases, a 32-year-old patient I-ev, working at the carpool No. 2, a mechanic, was brought with complaints about: headaches , insomnia, general weakness, nausea, vomiting, metallic taste in the mouth, abdominal pains, salivation.

Objectively: the patient has a reduced diet, the skin and mucous membranes are pale. Vesicular breathing in the lungs, the border of the heart is within the norm, at the top - systolic noise,

bradycardia (pulse - 36 beats per minute), hypotension (100/45 mm Hg), hypothermia - 35.4 ° C. In the blood there is leukopenia.

January 23, he was engaged in disassembly, repair and adjustment of the engine checking it in the box of the machine. After 2 days from the beginning of the repair, he felt ill and was taken by ambulance to the hospital.

Identify the alleged occupational hazard and establish a diagnosis.

Situational task №18

The analysis of the air of a clean surgical department showed that the content of CO2 in the surgeon's workplace was found to be 1.7%; dust - 0,2mg / m3, ethyl alcohol vapor - 1305 mg / m3 (MPC - 1000 mg / m3), the content of pathogenic staphylococcus - 6 colonies in 250 liters of air.

- Give a hygienic assessment and recommendations for optimizing the operating environment.

Situational task №19

On the following indicators, draw rose of the winds:

Rumba	N.	N.E.	E.	S.E.	S.	W.	N.W.	Calm
Repeatability (absolute number)	22	20	7	8	10	7	5	5

Situational task №20

The surface of the ventilation whole of the production room is 1 m / sq. M. The speed of air movement is 0.1 m / s, the cubic capacity of the room is 360 m3.

- Determine the frequency of air exchange.
- Give a hygienic assessment of the natural ventilation of the room.
-

Situational task №21

With the southern orientation of the chambers, the insolation time is 3 hours, the insolation area is 50%, the amount of heat due to solar radiation is 50 kcal / h.

- Define the type of insolation mode.
- What factors influence the intensity of room insolation?
- Radiation intensity when is the highest?
-

Situational task №22

Classroom area of 60 m / sq. is illuminated by 6 lamps of 100 watts each, the voltage in the grid is 220 V. The coefficient ξ is 2.5.

- Determine the average specific power of artificial lighting.
- Determine the level of artificial illumination in Lux.

Situational task №23

Assess the quality and safety of drinking water in accordance with the following parameters: water is clear, with bitter taste, odorless, sulfate and phosphate content of 1000 mg / l, microbial number is 150, oxidation 7.0.

- Give a hygienic assessment of the quality and causes of changes in the organoleptic characteristics of drinking water.
- Your recommendations on the use of water for drinking purposes.

Situational task №24

Workers of the weaving department experienced a decrease in working capacity, memory, increased heart rate, signs of fatigue. In this regard, noise measurements were made at two points at a distance of 1/3 along the longitudinal axis from the walls of the room. The noise level in the weaving workshop is 100 dB, the noise is intermittent.

- What device measures the noise level?
- Are the measuring points selected correctly?
- Provide a hygienic assessment of the noise level and causes of deviations in the health status of workers

Situational task №25

The air was sampled in the production room by an aspirational method using a universal aspirator, the filter was weighed before work. Its weight before measurements was 0.0120 mg, after aspiration it was 0.520 mg. The volume of pumped air is 500 liters.

- Determine the dust content in 1 cubic meter of air.
- Give a hygienic assessment of the dust content of the air.

Situational task №26

For chemical and bacteriological analysis, water from the well was taken by pot in a quantity of 1.0 liter, into chemically clean glassware. The water analysis was carried out 4 hours after sampling. In water, sulfates were detected in watered - 300 mg / l, chlorides 570 mg / l, fluorine 0.8 mg / l, the microbial number corresponded to 150 m / t. The water had a salty flavor, colorless, without foreign smell.

1. Was the water sample for the analysis correct?

- Give a hygienic assessment of the chemical and bacteriological composition of the water.

Situational task №27

There are three people in the chamber with the volume of 60 m / cub. Airing is carried out through the window, which is open for ten minutes every hour. The speed of air movement is 1 m/s. The surface of the window is 0.15 m / sq.

- Determine the frequency of air exchange.
- Assess the effectiveness of natural ventilation in the ward.

Situational task №28

For the general sanitary evaluation of the open water body, water was taken along the upper and lower boundaries of the water intake by a bathometer at a distance of 10 m from the shore, at a depth of 30 cm. The chemical composition of the water corresponded to: ammonia nitrogen 0.3 m / l, nitrogen nitrites 0.8 mg / l, hardness total - 8 mg / eq., sulfate 800 mg / l., Chloride 500 mg / l.

- Assess the chemical composition of the water.
- Was the water sample taken correctly?
- Is it possible to use water for drinking purposes?

Situational task №29

In the area the river is the source of water supply. Water is coagulated, settled, filtered, chlorinated, undergoes fluorination. The results of the water sample analysis were as follows: total hardness 7.0 M.Geq, dry residue 395.0 mg / l, sulphates 180 mg / l, chlorides 143.4 mg / l, fluorine 0.9 mg / l, the microbial number is 60, the odor is 1 point, the transparency is more than 30 cm, the residual chlorine is 0.3.

- Assess the water quality.
- Determine whether it is suitable for drinking.

Situational task №30

The laboratory delivered samples of soil from the land plot for the development of health facilities. The results of the soil analysis show that the enterococcus index is 7, the pathogenic Salmonella is 0, the larvae is 5, the pupae are 10. The organic compounds do not exceed the background, the presence is within 0.01 mg / kg.

- Give a conclusion on the composition of the soil?
- What is the category of pollution?
- Is it possible to allow construction, if not, why?

Situational task №31

For the temporary water supply of the military unit without preliminary reconnaissance, the water supply point is deployed. Water is stored in barrels, chlorination of the water is carried out by clarified solution of bleach at a rate of 20 mg / 1lt, the duration of chlorination is 30 minutes, after which there was a faint smell of chlorine.

- Is it possible to use it for drinking water supply of the military unit?
- Was the chlorination of the water carried out correctly?

Situational task №32

The company barracks were built at the rate of 3 m/sq. per 1 service man, the air volume - 7 m/kub per 1 service man. The beds are set in 2 tiers at a distance of 0.5 m from the windows and outside walls. Temperature + 18 ° C, humidity - 70%, airing for 5 minutes every 2 hours.

- Give a hygienic assessment of the internal placement of servicemen in the barracks?
- Assess the airspace status?
- Is the ventilation mode correct?

Situational task №33

Citizen E., bought boiled fish for dinner at the market, after its consumption, three of five family members had symptoms of food poisoning. Symptoms: dizziness, abdominal pain,

nausea, vomiting, uneven dilatation of the pupils, swelling of the eyelids, nasal speech, temperature + 35 ° C, frequent pulse.

- Determine the cause of the resulting health disorder in family members.
- What activities need to be carried out in this case.

Situational task №34

A health camp was deployed for 320 children during the summer holidays. The source of water supply is an artesian well, with a depth of 40 m (a rate of 250 m3 / day), and for swimming there was a lake located in the forest, at a distance of 1 km from the camp. The approximate rate of water consumption is 100 l / day.

The results of the analysis of artesian water correspond to the norms for organoleptic indicators, nitrates in the amount of 120 mg / l, nitrites 10 mg / l, sulfates - 1000 mg / l were determined by chemical parameters.

- Give a hygienic assessment of the water by chemical parameters.

Situational task №35

Chlororganic pesticides were brought for the processing of a personal land plot in the autumn period. They were stored in barrels in the street, under the open sky.

- Assess the storage conditions of pesticides?
- Give correct advice on the rational storage of pesticides.

Situational task №36

In the farm, seeds were etched with granozan in the open air, the seeds were etched manually in barrels, by mixing. The etching station was 250 m away from the residential area. The seed treatment site had a slope for drainage of rain water, covered with asphalt, without a canopy. Individual and collective protective equipment was not used. The site did not have fencing and ventilation equipment.

- Give a hygienic assessment of working conditions?
- Assess seed dressing conditions.

Situational task №37

In the ward of the therapeutic department, febrile patients are located. The air temperature is 18 ° C, the relative humidity is 78%, the air speed is 0.1 m / s.

- Give a hygienic assessment of the climate in the ward?

Situational task №38

The ward for therapeutic patients has an air temperature of +28 ° C, a relative air humidity of 90%, a radiation temperature of +35 ° C, and an air speed is 0.1 m / s.

- Give a hygienic assessment of the climate in the ward?
- Your recommendations for optimizing the air environment of the room.

Situational task №39

Premises for temporary deployment of servicemen in the late autumn period in the field were organized using tent property, on a site with a small shrub, taking into account the wind rose.

The tents are disguised, ditches are dug. In the first lane there are units. Headquarters, medical center, kitchen, service buildings inside the camp in the second strip are located

- Is it correct, how the camp is located, what facilities are lacking.

Situational task №40

Servicemen during the planned exercises were given dry rations for cooking in the field. In addition, they were provided with means for disinfecting water.

- What kind of food is a dry ration?
- What means are used to disinfect individual water supplies inA the field?

Block C

INSTRUCTION for the individual students' work on the topic:

INSTRUCTION for the independent work of students on the topic:

"Consideration of the project of health facilities"

Familiarization with the explanatory note and passport data of the projected hospital: composition of the hospital complex; general data on water supply, sewerage, ventilation, heat supply of buildings;

1. Familiarization with the situational plan, an estimation of correctness of a choice of the ground area. When solving the situation problem, answer the following questions:

- Is the hospital conveniently located for the served population (remoteness from residential quarters, availability of access roads)?
- Is the hospital section isolated from industrial and other "harmful" facilities?
- Whether sanitary protection zones are observed between the hospital and enterprises?
- Whether concentrations of substances in the air exceed “Maximum Permissible Concentration” taking in to account "Rose of the winds"?

- What is the terrain, the height of standing groundwater, the purity of the soil?
- Are there any green arrays nearby?

2. Consider the general plan of the site and evaluate its positive and negative aspects: the configuration and size of the plot, the total area, the hospital building system, functional areas, percentage of construction and gardening, the availability of a hospital garden and its area per bunk, the gaps between buildings and the site boundary, the number of entrances and exits.

3. Outline the found shortcomings, give recommendations for their elimination.

COMPOSITION OF THE PROJECT under the project is understood a set of documents, according to which new construction or reconstruction of the object should be carried out. The project consists of text and graphic parts.

TEXT PART - a set of explanatory notes, various references, official documents and other textual materials. In addition to the general explanatory note there may be explanatory notes for certain sections of the project (general part, architectural and construction, technological, water supply and sewerage, heating and ventilation, etc.). The explanatory note outlines the main technical, economic and construction indicators. The study of the explanatory note should precede the study of the drawings and greatly facilitate this work.

GRAPHICS PART - set of different drawings. Graphic representations of medical and prophylactic, residential buildings and other objects are called architectural and construction drawings.

SITUATIONAL PLAN - plan of the terrain on which the land plot is located, intended for the construction of the projected facility and its immediate surroundings. The situational plan characterizes the location of the facility in relation to the surrounding buildings, breaks from nearby residential buildings, industrial enterprises, etc. Rose of the winds also applied to the situational plan, with the help of which one can judge the frequency of wind direction and the spread of atmospheric pollution.

GENERAL PLAN - refers to the plan of the land plot of the projected facility, which depicts the boundaries of the site, existing or projected buildings and other structures, green spaces, roads. In the place next to the drawings, an explication (explanation, designation) is given, in which all the buildings and structures depicted on the master plan are listed with the symbols (numbers, letters) allowing them to be found on the drawing. Beginning to read the drawing, first of all, read the inscriptions that indicate the name of the drawn object or its conditional cipher, project organization, etc.

The project also includes graphic images of the contours of buildings and premises, the placement of furniture, technological equipment, heating, ventilation, water supply, sewerage and others. Drawings are considered for the purpose of checking compliance with hygienic norms and rules when designing an object.

Among the project drawings, priority should be given to situational and general plans, facade drawings, horizontal and vertical sections of buildings, and then technological drawings, drawings of heating, ventilation, water supply, sewerage, etc.

In this case, it is necessary:

- to recognize those or other conditionally depicted objects;
- determine their shape, size and materials from which they will be made;
- perform various calculations, for example, calculate the distance, area and cubic capacity of the premises, the percentage of the slope of the terrain.

For the sake of clarity and unification of images in drawing up drawings use conventional graphic images. Depending on the content, the drawings have the corresponding markings, carried out in large letters at the bottom of the drawing sheet on the right:

AC-K - architectural and construction and structural,
VC - water supply and sewerage,
OV - heating and ventilation,
EO - electric lighting,
HS - gas supply,
ST - low-current devices (telephone, radio, etc.).

SANITARY AND TECHNICAL EQUIPMENT OF THE HOSPITAL

Using the explanatory note the student answers the following questions in writing:

- How to organize the food and water supply of the hospital;
- Ventilation, heating and hospital lighting system. Is emergency lighting available to continue emergency work (in the operating room, birth control room, etc.) when the electricity is cut off in the common network;
- presence of telephone communication, signaling, radio-communication;
- Sewage system of the hospital: is it envisaged that the wastewater of the infectious body is disinfected.

Answering the questions, the student gives a general conclusion on the whole project, including data on the general and situational plans. It is necessary to state the conclusions and recommendations for the elimination of the noted shortcomings, which are discussed by the whole group with the participation of the teacher.

Instruction for students' the individual work on the topic: "Sanitary and hygienic requirements for health facilities"

Consider and study the placement of medical buildings, their floor plans.
List the departments located in the main building, characterize their relative position, the path of the patients.
Consider the admission department (for adults and children). Determine the list and size of rooms, the principle of the flow of income and discharge of patients.
The location of the department (floor, wing, etc.), determine the number of rooms in the ward, the number of beds in the treatment and diagnostic rooms or the laboratory, the presence of a refreshment room, day rooms for patients, linen, toilet, etc. The presence of a corridor (width, length, features of location - central, lateral); orientation of the wards around the world. All the data of the first 4 items are explained verbally, only the shortcomings explained to the instructor are fixed. After that each student makes a detailed description and datas of sanitary and hygienic assessment of any one of the departments of the hospital or polyclinic (as instructed by the teacher). In the description of the clinic, it is necessary to note the presence of a separate entrance from the street, the presence of the lobby, wardrobes and registries, the entrance for staff and administration rooms, for adults and entrances through filters or viewing boxes for children and taking tests, the presence is expected for FTO and X-ray departments, gynecological, skin and venereal surgeries, etc. To note the expediency of their location, determine the orientation and area of the doctors' offices. Describe the corridor, its dimensions.
Conclusions and recommendations for the elimination of the identified shortcomings, comparison them with the data of San PiN. When describing the therapy department or another department, initially give a hygienic assessment of the ward section, answering the following questions:

- the number of sections in the department;
- a set of premises for each ward section;
- common premises for the whole department;
- number of chambers and number of beds;
- area per bed, orientation and SC;
- the number of chambers with orientation to the north and north-west;
- location of the nurse on duty and distance from the ward of the seriously ill;
- procedural, its location, distance to the nurse's post, area, orientation;

- day room for patients, its location, area;
- Pantry, orientation;
- dining room, its orientation, area and number of seats;
- a sanitary unit for patients; set of rooms, availability of natural lighting;
- ward corridor, its width, the presence of a light break and windows at its ends with 2-sided building;
- height of premises, air cube in wards.

When hygienic evaluation of the layout of the therapy department, is donebe guided by the hygienic requirements for the internal planning of the ward section. Give conclusions and recommendations for the elimination of shortcomings. Hygienic evaluation of the planning of the surgical department (operating unit) consists of hygienic requirements for the layout of the ward section and the specifics of the unit (unit).

- location of the operating unit in the hospital building;
- availability of convenient and short ways of ligation with surgical departments, receiving rest, X-ray room;
- set of premises of the operating unit;
- Is the number of operating rooms sufficient?
- the possibility of separating the septic ("purulent") operating room;
- operating room, its area, state of natural light, orientation;
- preoperative, its relationship with the operating room;
- Anesthesia, its relationship with the operating room;
- sterilization, its location;
- postoperative wards, their location in relation to the operating unit, the number of beds in them, the area per 1 bed;
- other premises of the operating unit gypsum, the office of the head, room of the surgeon, instrumental and material).
- availability of freight elevator between floors.
- Give a hygienic assessment of the internal planning of the obstetric ward, answering the questions:
- isolation of obstetric ward from gynecological;
- the presence of a generic and postnatal physiological and observational obstetric departments, the composition and area of the premises;
- prenatal chambers, number of beds in them, area per 1 bed, orientation;
- birth chambers, number of beds in them, area per 1 bed, orientation;
- presence of the intensive care unit, its area;
- operational, its area, orientation, support facilities;
- the composition of the rooms of the postpartum physiological department;
- postpartum chambers for puerperas, the number of beds in them, the area per 1 bed, SK, orientation;
- wards for newborns, the number of beds in them, the area per bed, orientation;
- the device of locks in front of wards for newborns;
- availability of a day room and a dining room in the physiological department;
- isolation of the observational obstetrics ward (section, subsection) from the physiological, the presence of a gateway between them;
- presence in the observatory department of the birth, operative, postpartum chambers;
- the presence of a generic box for the isolation of parturient women and puerperas with newborns, for the gynecological department;
- Be guided by the hygienic requirements for the internal planning of the ward section and the specifics of the planning for the department on the following list of issues;
- presence of a small operating room with a preoperative, their area, orientation;
- procedural, its area, orientation;
- availability of a convenient connection with the physiotherapy department.

When describing the infectious disease department, note the number of infections treated, how the isolation of patients with various infections is carried out; Identify the features of the device chambers, the presence of boxed chambers (which are boxes), full boxes and half-boxes; note the presence of locks for personnel and tambours for patients coming from the street into a full box.

Is there a separate entrance, a sanitary checkpoint (or showers) in the nursing facility. How is the discharge of infectious patient done, where their clothes are disinfected and stored, is there a room for washing and disinfecting dishes, toys, household items, etc.? How is wastewater disinfected, is there any exhaust ventilation in the rooms? Are the areas of the main premises, their orientation in accordance with sanitary norms and rules. Give conclusions and recommendations for the elimination of identified shortcomings.

Recommendations for students individual work on assessing the adequacy of student nutrition

The organization of a rational food forstudents

Studying young people should be considered as a professional-production group of the population of a certain age category, united by specific features of work and living conditions. When organizing the rational nutrition of students, a correspondence is needed between the energy value and the qualitative composition of the daily diet. The required average daily food intake is shown in

Table 1. ***Average daily set of food for students***

Products		**Quantit**	**Products**	**Quantity, г**
Bread, rye wheat,		250	Fats	35
Crackers		5	Vegetable oil	22
Whet flour		20	Meat	240
Pasta		15	Fish	64
Cereals, legumes		60	Egg	36
Sugar		95	Milk and acid milk	400
Potatoes		320	Cottage cheese	24
Vegetables		340	Sour cream	20
Fruits, juices		50	Cheese	15
Dried fruits		16	Tea	2

The energy needs of male students are 2,585 kcal (10.8 MJ), female students 2,434.5 kcal (10.2 MJ). Proteins should be 12% of the daily energy value of rations, and the proportion of proteins of animal origin is at least 60% of their total number. Fats account for 30% of the total energy values of the diet, and carbohydrates accounted for (58%). Daily need of calcium -800 mg, phosphorus 1600 mg, magnesium 500 mg, potassium 2500-5000 mg, iron 10 mg. The content of vitamins in a daily diet should correspond to the need for vitamins to match the values for an adult.

Calculation of daily energy consumption

The hygienic assessment of the daily diet starts with the determination of daily energy consumption. Energy consumption can also be determined indirectly (respiratory energy metering, alimentary and calculated tabular-timing method). The method of alimentary energy metering is based on accurate consideration of the energy requirement for food and control over the body weight in dynamics of 7-14 days. Timing - tabular method allows approximately to calculate the daily energy consumption of a person with or without the main exchange. In this case, we will use the table-time method.

Task 1. It is necessary to calculate the amount of individual energy consumption per day, using the data in Table 2.

It is necessary to conduct a personal timekeeping by a student of the time per day spent for each type of activity. The data is entered in the column "Duration", thus, the amount of time expended should be taken into account, should be 1440 min (24 hours). Then each activity is multiplied by the elapsed time, and the received data are entered in the last column "Energy consumption ...". The obtained data are summed and multiplied by the body weight. By calculating the proportion you determine 10-15% (unaccounted for energy), the data obtained are added to the total amount of energy consumption. Thus, you will get a daily power consumption.

Task 2. Determination of energy value and content of basic nutrients (proteins, fats, carbohydrates, vitamins and mineral elements) in the daily diet.

To complete this task, make a menu-layout (list of foods, expressed in weight categories - grams). Fill in the table 3.

In the first column you write down the menu layout, in the second column the total amount of food eaten, the subsequent columns are filled with data on the chemical composition of the diet. To do this, use the table 4. (Chemical composition of food). The amount of the total amount of food eaten is multiplied by the energy value of this product, indicated in Table 3. For example, all of the eaten 300 grams is multiplied by the data of Table 2.3. (on calories, proteins, fats, carbohydrates) and divide by 100 (a proportion is made up). Thus, the table 3 is filled.

Task 3. Comparison of the received data with physiological norms a food for students.

The indicators obtained from actual nutrition are compared with the physiological norms of nutrition for students, given in Table 5.

Task 4. The power mode is evaluated. The distribution of food for breakfast, lunch, dinner on energy value (kcal) is taken into account in percentage. Let's say breakfast is 20% of the total caloric content, lunch is 40%, etc. These data are compared with the requirements of rational nutrition.

Task 5. Micro symptoms of malnutrition are defined. Data are presented in Table 6.

Task 6. Write a conclusion, give recommendations for correcting the individual nutrition of the student.

Table 2. Daily timekeeping and calculation of energy costs (including basic exchange) for various activities (indicative

№	Types of activities	Duration in min	Energy consumption	Energy consumption
1	sleep	480	0,0155	0,0155x 480
2.	Morning training		00648	
3.	Cleaning of the bed		00329	
4	Washing		00504	
5	Shower		00570	
6	ıtting on and undressing shoes and clothes		00264	
7	WC		00281	
8	feeding		00236	

9	walking		00625	
10	Transport ride		00267	
11	Practical classes: Sitting, Standing		00250, 00360	
12	Listening to lectures		00243	
13	Food intake		00236	
14	Washing dishes		00313	
15	Rest standing		00264	
16	Rest sitting		00229	
17	Rest without sleep		00183	
18	Cleaning of the room		00402	
19	Care for children		00360	
20	Laundry		00511	
21	Dancing		00596	
22	Singing		00290	
23	Swimming		11190	
24	Floor exercise		00845	
25	Different chores		00573	
26	Self preparing		00250	
27	Personal hygiene		00329	

Table 3. Sample menu layout and chemical composition of the daily diet

The name of dishes (menu-layout)	**The amount of food eaten in grams (per day)**	**Energy value,cal**	**Proteins, g**	**Fats, g**	**Carbohydrates, g**
Breakfast Rice Porridge of rice of milk sugar 2. Tea without sugar		calculation	calculation	calculation	calculation
	50				
	200				

3. Bread	15				

Similarly, the chemical composition of lunch and dinner is calculated. Calculate vitamins and mineral elements, using the data of Table 4.

Table 4

Chemical composition of food products

Product	**Proteins, g**	**Fats, g**	**Carbohydrates, g**	**Energy value, cal**
Millet	11,2	3,9	56,6	311
Buckwheat	10,8	3,2	54,4	295
Rice	7,5	3,2	56,1	283
Peas	20,5	2,0	48,6	298
Beans	21,0	2,0	15,6	292
Wheat flour extra class	10,3	1,1	68,9	334
Wheat flourt of the ferst grade	10,6	1,3	67,6	331
Wheat flour of the second grade	11,7	1,8	63,7	324
Semolina	10,3	1,0	67,7	328
Wheat millet	11,5	3,3	62,1	330
Pearl barley	9,3	1,1	66,5	320
High grade pasta	10,4	1,1	69,7	337
Pasta of the first grade	10,7	1,3	68,4	335
1-st grade wheat bread	7,9	1,0	48,1	239
2-nd grade wheat bread	8,6	1,3	45,3	233
Bread wheaten molded 2 grades	8,1	1,3	42,8	221
Granulated sugar	0	0	99,8	379
Honey				
Caramel with fruit and berry	0	0,1	95,7	370
Chocolates with chocolate-cream	4,0	39,5	51,3	569
Biscuit cake, interlaced with fruit	4,7	20,0	49,2	391
Milk, pasteurized with 3.5% fat	2,79	3,5	4,69	61
Sour cream 25% fat content	2,6	25,0	72,7	248
Curd fatty	14,0	18,0	2,8	238
Fat kefir	2,8	3,2	4,1	56
Butter, unsalted	0,5	82,5	0,8	748
Cheese, Dutch, round	23,7	30,5	-	258
Cheese Russian	23,0	29,0	-	360
Ice Cream	3,3	3,5	21,3	179
Ice cream - Plombir	3,2	3,5	21,3	179
Sunflower refined sunflower oil	0	99,9	0	899
Cottonseed oil	0	99,9	0	899
Eggplant	1,2	0,1	5,1	24
White cabbage	1,8	0,1	5,1	24
Potatoes	2,0	0,4	16,3	80
Bulb onions	1,4	-	9,1	41

Pepper red, sweet	1,3	-	5,3	27
Watermelon	0,7	0	8,8	
Apricots	0,9	0,1	9,0	41
Bananas	1,5	0,1	19,0	89
Apples	0,4	0,4	9,8	45
Lamb 1 category	15,6	16,3	0	209
Beef 1 category	18,6	16,0	0	218
Horse meat 1 category	19,5	9,9	0	167
Pork meat	14,3	33,3	0	357
Chicken meat	18,2	18,4	0	241
Fats	0	99,7	0	897
Sausage Moscow	11,1	21,8	0	350
Doctor's sausage	12,8	22,2	0	257
Sausage Ukrainian	16,5	34,4	0	376
Eggs with chicken	12,7	11,5	0	157
Fresh / salted fish				
Bream	17,1	4,1	-	105
Sudak and other species	18,4	1,1	-	84

continued Table 4

Vitamin content of food (mg / 100 g of product)

Products	A	Д	E	C	B1	B2	B6	B12	PP	Folacin
Rye bread	0	0	2,20	0	0,18	0,08	0,17	0	0,67	30,0
Bread, wheat	0	0	3,30	0	0,23	0,08	0,29	0	3,10	29,0
Buckwheat	0	0	6,65	0	0,43	0,20	0,40	0	4,19	32,0
Groats of oatmeal	0	0	3,40	0	0,49	0,11	0,27	0	1,10	29,0
Rice	0	0	0,45	0	0,08	0,04	0,36	0	1,60	19,0
Millet	0	0	2,60	0	0,42	0,04	0,52	0	1,55	40,0
Milk	0,02	…	…	0,6	0,02	0,13	…	0	0,10	4,5
Cream 20%	0,15	0,12	0,52	0,3	0,03	0,11	0,06	0,5	0,10	7,8
Sour cream 30%	0,23	0,15	0,55	0,8	0,02	0,10	0,07	0,36	0,07	8,5
Curd fatty	0,10	…	0,38	0,5	0,05	0,30	0,11	1,0	0,30	35,0
Kefir fatty	0,02	…	0,07	0,7	0,03	0,17	0,06	0,4	0,14	7,8
Cheese Dutch	0,21	…	0,31	2,8	0,03	0,38	0,11	1,1	0,20	11,0
Cream cheese	0,15	…	0,35	1,2	0,02	0,39	0,10	0,3	0,15	14,0
Vegetable oil	…	42,0	…	…	…	…	…	…	…	…
Margarine creamy	0,02	20,0	trace	…	trace	trace	0,03	…	0,02	…
Cabbage	0	trace	0,06	45,0	0,03	0,04	0,14	…	0,74	10,0
Potatoes	0	…	0,10	20,0	0,12	0,07	0,30	…	1,30	8,0
Bulb onions	0	…	0,20	10,0	0,03	0,03	0,11	…	0,60	14,0
Pepper	0	…	0,67	15,0	0,03	0,04	0,04	…	0,20	4,0
Cucumbers	0	…	0,10	10,0	0,06	0,07	0,13	…	10,0	9,0
Tomatoes	0	…	0,39	25,0	0,02	0,04	0,07	…	0,20	13,0
Apricot	0	…	0,95	10,0	0,04	0,04	0,13	…	0,50	14,0
Cherry	0	…	0,32	15,0	0,05	0,06	0,05	…	0,70	3,0
Apples	0	…	0,63	16,0	0,03	0,02	0,06	0	0,30	2,0
Orange	0	…	0,22	60,0	0,04	0,03	0,04	0	0,20	5,0
Lemon	0	…	…	40,0	0,05	0,02	0,09	0	0,30	4,0
Mandarin	0	…	0,20	38,0	0,03	0,05	0,06	0	0,30	10,0
Black currant	0	…	0,72	200,0	0,05	0,33	…	0	0,60	…
Grapes	0	…	…	6,0	0,03	0,05	0,06	0	0,30	10,0
Strawberry	0	…	0,54	60,0	0,02	0,02	0,08	0	0,15	1,0
Raspberries	0	…	0,58	25,0	0,03	0,05	0,11	0	0,36	9,0
Sea buckthorn	0	…	10,3	200,0	0,03	0,04	0,13	0	0,30	5,0

Rosehip	**0**	**…**	**1,71**	**650,0**	**0,24**	**2,45**	**0,41**	**0**	**0,40**	**140,0**
Beef 1category	**trace**	**…**	**057**	**trace**	**0,52**	**0,14**	**0,33**	**…**	**2,60**	**4,10**
Beef liver	**8,2**	**…**	**1,38**	**39,0**	**0,36**	**0,75**	**0,30**	**10,0**	**5,0**	**2,50**
Pork meat	**trace**	**….**	**0,57**	**trace**	**0,52**	**0,14**	**0,33**	**…**	**2,60**	**4,10**
Category 1 chicken	**0,07**	**…**	**0,20**	**1,80**	**0,12**	**0,17**	**0,23**	**…**	**5,8**	**3,50**
Sausage amateur	**…**	**…**	**…**	**….**	**0,18**	**0,15**	**0,13**	**…**	**2,30**	**3,90**
Chicken egg	**0,25**	**2,20**	**2,00**	**…**	**0,07**	**0,44**	**0,14**	**0,52**	**0,19**	**7,00**

continued Table 4

Mineral elements content of food

Products |	**Sodium**	**Potassiu**	**Calcium**	**Magnesiu**	**Phosphor**	**Iron**
Bread, wheat	**495**	**180**	**33**	**54**	**130**	**2,4**
Rye bread	**610**	**245**	**35**	**47**	**158**	**3,9**
Buckwheat	**-**	**167**	**70**	**98**	**298**	**80**
Rice	**26**	**54**	**24**	**27**	**97**	**18**
Millet	**39**	**201**	**27**	**101**	**233**	**70**
Beans	**40**	**1100**	**150**	**103**	**541**	**12,4**
Peas	**69**	**873**	**115**	**107**	**329**	**9,4**
Milk	**50**	**146**	**120**	**14**	**90**	**0,06**
Cream 20%	**35**	**109**	**86**	**8**	**60**	**0,2**
Sour cream 30%	**32**	**95**	**85**	**7**	**59**	**0.3**
Curd fatty	**41**	**112**	**150**	**23**	**216**	**0.5**
Fat kefir	**50**	**146**	**120**	**14**	**95**	**0,1**
Dutch cheese	**1100**	**100**	**1040**	**50**	**540**	**1,2**
Russian Cheese	**880**	**200**	**760**	**40**	**600**	**0,8**
Watermelon	**16**	**64**	**14**	**224**	**7**	**1,0**
Melons	**32**	**118**	**16**	**13**	**12**	**1,0**
Cabbage	**13**	**185**	**48**	**15**	**31**	**1,0**
Potatoes	**28**	**568**	**10**	**23**	**58**	**0,9**
Bulb onions	**50**	**225**	**87**	**10**	**58**	**1,0**
Pepper	**19**	**163**	**8**	**11**	**16**	**-**
Cucumbers	**8**	**141**	**23**	**14**	**42**	**1,4**
Tomatoes	**40**	**290**	**41**	**20**	**26**	**1,4**
Apricot	**30**	**305**	**28**	**19**	**26**	**2,1**
Cherry	**20**	**256**	**37**	**26**	**30**	**1,4**
Apples	**26**	**248**	**16**	**9**	**11**	**2,2**
Orange	**13**	**197**	**34**	**13**	**23**	**0,3**
Lemon	**11**	**163**	**40**	**12**	**22**	**0,6**
Sorrel	**15**	**500**	**47**	**85**	**90**	**2,0**
Black currant	**32**	**372**	**36**	**35**	**33**	**0,9**
Grapes	**26**	**255**	**45**	**17**	**22**	**0,6**
Pears	**14**	**155**	**19**	**12**	**16**	**2,3**
Raspberries	**19**	**224**	**40**	**22**	**37**	**1,6**
Plum	**18**	**214**	**28**	**17**	**27**	**2,1**
Garlic	**120**	**260**	**90**	**30**	**140**	**1,5**
Beef 1category	**65**	**325**	**9**	**22**	**188**	**2,7**
Lamb 1 category	**80**	**270**	**9**	**20**	**168**	**2,0**
Pork meat	**58**	**285**	**7**	**24**	**164**	**1,7**
Horse meat 1 category	**73**	**355**	**10**	**25**	**200**	**2,9**
Beef liver	**104**	**277**	**9**	**18**	**314**	**6,9**
Category 1 chicken	**79**	**240**	**18**	**21**	**190**	**1,6**
Carp	**55**	**265**	**35**	**25**	**210**	**0,80**
Bream	**100**	**335**	**30**	**35**	**220**	**0,63**
Sausage amateur	**900**	**211**	**19**	**17**	**146**	**1,7**
Chicken egg	**134**	**140**	**55**	**12**	**192**	**2,5**

Clinical symptoms of vitamin deficiency

Organs and tissues	Symptoms
Eyes	1. 1. With vitamin A deficiency, conjunctivitis occurs (dryness, thickening, pigmentation of the conjunctiva, open part of the eyeball and loss of shine and transparency, which can be easily determined by drawing eyelids.) Plaques of Iskerski (Bito stains) are the remains of cornified epithelial cells. 2. 2. Vitamin A, B, deficiency causes a disturbance of dark adaptation.
Lips	1. 1. With insufficiency of vitamins B2 and B6, angular stomatitis is observed (erosion and cracks in the corners of the lips, with hypovitaminosis both corners of the mouth are affected. 2. 2. Signs of deficiency of B2, B6, PP is cheilosis (vertical lip cracks with edema and hyperemia, more often in its central part). Sometimes such by weather conditions changes are caused.
Tongue	1. 1. A sign of vitamines B2, B6, PP is insufficiency the edema of the tongue (dental impressions along the edge of the tongue), atrophy of the papillae (the filiform papillae, the polished tongue disappear). 2. 2. If vitamins B2 and PP are deficient, hyperemia and hypertrophy of the papillae (papillae hypertrophied, red or hypertrophic, the surface appears grainy (strawberry-red) is observd 3. 3. Signs of vitamin PP deficiency can be a bright red tongue, teeth prints and a burning sensation of the tongue. 4. 4. With hypovitaminosis B6, glossitis occurs (sometimes it can be a consequence of trauma under the influence of solid food or dentures)
Gums	1. With a deficiency of vitamin C, loose and bleeding gums, swollen interdental papillae and gum margins are noted. This symptom is absent in young children, even in severe cases of hypovitaminosis (child scurvy)
Teeth	The frequency of tooth decay is significantly related to the nature of the food, the lack of fluoride and especially the sugar content, refied carbohydrates.
Skin	1. 1. When vitamin A deficiency occurs, xerosis (total dryness of the skin with peeling, but it is necessary to keep in mind the weather conditions like mud, dry, hot and windy climate). 2. 2. Insufficiency of vitamins A and C. causes the development of follicular follicle hyperkeratosis (a spiny-shaped plaque around the neck of the hair , it is easy to examine when it holding a hand over the affected area, the skin is as it were). Localization - in the buttocks, hips, elbows. 3. 3. With deficiency of vitamins P and C, petechiae are observed (small hemorrhages on the skin and mucous membranes, additional hemorrhages appear when applying the tourniquet)
Nails	Symptom of iron deficiency is coilochia (bilateral spoon-like deformation of nails in children of older age groups).

Organs of digestion	With dyspeptic syndrome (smell from the mouth, unpleasant taste in the mouth, belching, heartburn, nausea, vomiting, flatulence) it is necessary to examine the stomach, duadenum, the intestine, determining the boundaries of the liver, as there may be various diseases of the digestive tract.
Nervous system	1. 1. The lack of vitamins B1, B6, PP and C promotes the development of psychomotor changes (apathy is often determined in the elderly, but more often as a sign of protein-energy malnutrition observed in young children in the development kwashiorkor ‘ это название заболевания)- . Children can not be measured accurately and approximately can be determined by the child's reaction to bright objects and color. Increased fatigue, decreased performance, irritability, general weakness. 2. 2. If vitamin B1 is deficient, insomnia and muscle pain are observed. To confirm the connection of pathological processes with the state of nutrition, special attention is given to diseases in which the essential role is played by eating disorders like alimentary dystrophy, diseases of the digestive organs, liver, metabolism (obesity, diseases of the cardiovascular system).

Раздел 4

METHODOLOGICAL MATERIALS DEFINING PROCEDURES FOR ASSESSING KNOWLEDGE, ABILITIES, SKILLS, AND/OR EXPERIENCE CHARACTERIZING THE STAGES OF COMPETENCY DEVELOPMENT. DESCRIPTION OF INDICATORS AND CRITERIA FOR ASSESSING COMPETENCIES, DESCRIPTION OF THE ASSESSMENT SCALE.

This section provides a methodological description of the assessment procedure for acquired competencies (or parts of competencies). All assessment tools listed in the summary table for a course (module) should generally be accompanied by a methodological description of their implementation. The purpose of such a description is to ensure that, upon reviewing the methodological materials, the student understands exactly how the assessment will be conducted (taking a test, writing a quiz, solving problems, defending an essay, term paper, or project).

SCALE OF ESTIMATION

ASSESSMENT SCALE OF THE REPORT WITH PRESENTATION (formative assessment)

	Indicator name	**mark (in %)**
THE FORM		10
1	Plan of the report (introduction, main body, conclusions, recommendations)	0-5
2	A logical and understandable transition from one part to another, the validity of the conclusions.	0-5
CONTENT		50
1	Matching the topic	0-15
2	Presence of the main topic	0-10
3	Disclosure of the main problem on the topic, the situation in KR or in RF	0-25
4	Presence of conclusions corresponding to the topic and content of the main	0-15
PRESENTATION		25
1	Title page with title	0-2
2	Design slides and (slide change, sound, graphics, tables)	0-5
3	Brief and clear presentation of the text	0-10
4	Logical sequence of slides	0-5
5	Presence of printout of slides	0-3
REPORT		15
1	Correctness and accuracy of speech during protection	0-5
2	Answers to questions)	0-5
3	Compliance with regulations	0-5
Total points		**100**

ESTIMATION SCALE OF THE ESSAY (Formative assessment)

№	**Indicator name**	**mark (in %)**
QUALITY OF WRITING THE ESSAY		
1	Introduction	0 -10
2	Chapter 1 (statistical drawings, diagrams, photographs, tables)	0 - 25
3	Chapter 2 (statistics)	0 -25
4	Conclusion	0 -20
5	References, normative and technical documents	0 -05
6	Quality and presentation design, volume, Literacy	0 -10
7	Answers on questions	0 -05
Totall assessment for formative monitoring		**100**

ESTIMATION SCALE OF SANITARY SURVEY CARD ASSIGNMENT (formative assessment)

№	**Indicator name**	**mark (in %)**
THE FORM		
1	Introduction. Planning	0-10
2	Map of the situational plan. Photo of the hospital (front and side facade).	0-15
3	Description and preparation of the general plan	0-15
4	Description and planning of the internal layout of the office	0-15
5	Assessment of the sanitary and hygiene of a department and ward	0-20
6	Work place hygiene and personal hygiene of medical workers	0-15
7	Conclusion and recommendations	0-10

Total points	100

SCALE OF ESTIMATION OF TEST TASKS (midterm assessment)
1. There are 25 closed questions in one test task.
2. The tasks provide ready answers to the choice, one correct and oll the other wrong.
3. The student must remember: in each assignment with the choice of one correct answer, the correct answer is there.
4. For each correct answer - 4 points
5. The overall score is defined as the sum of the points scored.
6. The mark (in%).

SCALE OF ESTIMATION KNOWELEDGE OF THE ORAL SURVEY (midterm assessment)
When assessing verbal responses to the KNOW level check, the following criteria are taken into account.
1. Knowledge of goals, objectives and methods of researching discipline.
2. Completeness of the answer.
3. Knowledge of terminology and its use in answering.
4. The ability to explain the causal relationship between the studied factor and the health of the population, form conclusions, give reasoned answers.
5. Logical and consistent answer, correct answers to additional questions.

The mark of 16-20 points - the answer is logically correct, the student uses the discipline terminology used in the discipline, as well as medical terminology in general; demonstrates excellent knowledge in the field of hygiene; knows the research methods used in hygiene; activities aimed at strengthening the health of the population, formation of a healthy lifestyle and the prevention of dental diseases; Deeply understands the statistical indicators characterizing the health of the population;
A mark of 10-15 points - the answer demonstrates basic knowledge in the field of hygiene, the student knows the peculiarities of the influence of environmental factors on human health; demonstrates insufficient knowledge in the field of preventive measures aimed at strengthening the health of the population, formation of a healthy lifestyle and the prevention of dental diseases; average understanding of statistical indicators characterizing the health of the population; partly knows the methods of research used in hygiene.
A mark of 5-10 points - the answer demonstrates the average knowledge in the field of hygiene, the student knows 1-2 methods of research used in hygiene, does not deeply understand the preventive measures aimed at strengthening the health of the population, formation of a healthy lifestyle and prevention of dental diseases; does not know the statistical indicators characterizing the health of the population.
A mark 1-4 points - the answer demonstrates very weak knowledge in the field of hygiene; does not know the methods of research used in hygiene, is poorly versed in preventive measures aimed at strengthening the health of the population and the formation of a healthy lifestyle and the prevention of dental diseases; does not know the statistical indicators characterizing the health of the population.

SCALE OF ESTIMATION OF ANALYTICAL AND PRACTICAL TASKS midpoint assessment -
To check students' competencies skills and expertise
When assessing the answers for skills and expertise level, the following criteria are taken into account.
A mark of 8-10 points - the student understands and analyzes environmental factors, uses terminology; adopts alternative preventive solutions, knows hygienic methods of research; Deeply reveals the effect of the environmental factors on human health; perfectly identifies cause-effect relationships, can analyze and interpret information; caries out measures for the prevention of diseases of the oral cavity and IOMP.

A mark 4-7 points - the student understands and skills analyzes expertise environmental factors, uses terminology; but does not take alternative preventive solutions, does not have sufficient knowledge of hygienic methods of research; not sufficiently reveals the effect of the factor on human health; poorly reveals cause-effect relationships, poorly knows how to analyze and interpret information; superficially knows methods of organizing activities for the prevention of oral diseases and IOMP.

A mark of 1-3 points - the student partially understands and analyzes environmental factors, partially uses terminology; does not accept alternative preventive solutions, does not possess hygienic methods of research; weakly reveals the degree of the effect of the factor on human health; poorly knows cause-effect relationships, does not know how to analyze and interpret information; poorly knows methods of organizing activities for the prevention of diseases of theoral cavity and IOMP.

A mark of 0 points - the student does not understand the problem or does not give intelligible answers, does not try to solve the task.