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Federal State Budget Educational Institution
of Higher Education
Pacific State Medical University
of the Ministry of Health of the Russian Federation

APPROVED BY
Director of the Institute of
Preventive Medicine
_____ / Trankovskaya L.V./
"8th" of April 2025

COLLECTION OF ASSESSMENT TOOLS
Б1.О.18 Sanitary science and fundamentals of dietetics
of the basic educational program
of Higher Education

Specialty	**31.05.01 General Medicine for international students (in English)** (code, name)
Degree	Specialist's degree
Profile	02 "Healthcare" (in the field of providing primary health care to the population in medical organizations: polyclinics, outpatient clinics, inpatient/outpatient facilities of the municipal health care system)
Mode of study	**Full-time**
Period of mastering the BEP	**6 years** (nominal length of study)
Institute	of Preventive Medicine

Vladivostok, 2025

1. INTRODUCTION

1.1. Collection of Assessment Tools is a document that regulates the format, content, and types of assessment tools for continuous assessment, interim examination and final (state final) examination, and graded criteria for each type of assessment tools.

1.2. Assessment tools allows to evaluate the development of universal, general professional, and professional competencies (UCs, GPCs and PCs respectively) outlined in Federal State Educational Standard of Higher Education and defined in the basic educational program of higher education for the specialty 31.05.01 General Medicine for international students (in English), profile 02 "Healthcare" (in the field of providing primary health care to the population in medical organizations: polyclinics, outpatient clinics, inpatient/outpatient facilities of the municipal health care system).

(BEP HE for the 31.05.01 General Medicine for international students (in English) specialty, section 3 Learning Outcomes Requirements of the Basic Educational Program of Higher Education)

2. DOCUMENT BODY

2.1. Types of Assessment, Formats of Assessment Tools

No.	Types of assessment	Assessment Tools Format
1	**Continuous assessment**	**Tests**
		Interview Questions
		Mini-Case Studies
		Checklists
2	**Interim assessment**	**Interview Questions**
		Mini-Case Studies
		Checklists

3. The contents of assessment tools for continuous and interim examination are prepared by the teacher of the course

Test questions

	Code	Competence description / name of labor function / name of work activity / text
S	31.05.01	General Medicine for international students (in English)
C	GPC-2	Is able to conduct and monitor the effectiveness of disease prevention measures, actions aimed at development of a healthy lifestyle, and health and hygiene education of the population
C	GPC-7	Is able to prescribe treatment and monitor its efficacy and safety
I		**ANSWER LEVEL 1 TEST QUESTIONS (ONE CORRECT ANSWER)**
		Section 1. Sanitary science as a science and field of practical activity. **01 The purpose of hygiene is** 1. monitoring the health of the population 2. studying the conditions and factors of the environment +3. ensuring the sanitary and epidemiological well-being of the population

		4. justification of hygiene laws **02 The period of formation and development of sanitary science is** 1. 6th century BC 2. 2nd century BC 3. 15th century +4. middle – second half of the 19th century **03 The purpose of ranking risk factors in public health disorders is to** +1. objective identification of priority areas for preventive measures 2. identification of major diseases in the structure of morbidity 3. presentation of objective materials in reports at scientific events 4. assessment of the health service system's performance **04 The most effective type of prevention is** +1. primary prevention 2. secondary prevention 3. tertiary prevention 4. quaternary prevention **05 The most effective and economical methods of health and hygiene education of the population, disease prevention and health promotion are at the level of** +1. population 2. group 3. individual **06 A healthy lifestyle is** 1. following recommendations for a rational daily routine 2. following recommendations for healthy eating 3. following recommendations for physical activity +4. behavior, style that contributes to maintaining, strengthening and restoring the health of a given population **07 Public health is** 1. the state of health of the population, determined by socio-economic conditions +2. the aggregate health of individuals that make up society 3. the state of health of the population, determined by the development of social relations 4. the state of health of the population, determined by the state of the environment **08 Health (according to the WHO definition) is** 1. a human condition that ensures his ability to work 2. a human condition determined by the conditions of his life +3. a state of complete physical, mental and social well-being, and not just the absence of diseases or physical defects 4. a human condition characterized by the optimal functioning of systems and organs **09 Primary prevention is** 1. prevention of the spread of diseases through early diagnosis and timely treatment 2. prevention of the transition of chronic diseases to an acute form

		+3. prevention (reduction) of morbidity by influencing its causes, conditions, risk factors 4. creation of decent conditions for doomed patients **10 Prevention is** +1. in medicine, a system of measures to prevent diseases, maintain health and prolong human life 2. prevention of the spread of mass non-communicable diseases 3. a set of measures to reduce the level of environmental pollution 4. a set of measures aimed at early detection and timely treatment of diseases **11 Tertiary prevention is** 1. a type of prevention that ranks third in effectiveness among all types of prevention 2. prevention of the spread of diseases through early diagnosis and timely treatment 3. a set of measures aimed at ensuring a dignified end to life for doomed patients +4. a set of measures to curb the progression of developed diseases and prevent relapses, the transition of diseases to a more severe form **12 A factor is** +1. driving force of ongoing processes or a condition influencing processes 2. element of the environment 3. component of the biosphere 4. condition of human habitation leading to the development of health disorders **13 Quaternary prevention is** 1. a type of prevention that ranks fourth in effectiveness among all types of prevention +2. a set of measures aimed at ensuring a dignified end to life for doomed patients 3. prevention of the spread of diseases through early diagnosis and timely treatment 4. a set of measures to curb the progression of developed diseases and prevent relapses, the transition of diseases to a more severe form **14 Health and hygiene education of the population must be carried out by** 1. only specialists of medical and preventive organizations +2. all specialists of preventive and clinical medicine without exception 3. only specialists of Health Centers 4. only specialists of Preventive Medicine Centers **15 The main direction of hygienic education and upbringing of the population, implemented by specialists of medical and preventive organizations is** 1. treatment of diseases +2. prevention of diseases 3. diagnosis of diseases 4. preservation of the natural environment

Section 2. Hygienic aspects of the main factors and conditions of the human environment

01 The factors that form and characterize the climate include

+1. geographical latitude, which determines the influx of solar radiation

2. the state of solar activity at a given time

3. the air temperature at a given time in a given area

4. the number of sunny days per year

02 Heat stroke is defined as

1. a violation of thermoregulation associated with a disorder of the cardiovascular system

2. a heat injury associated with a violation of the water-electrolyte balance

+3. a pathological condition caused by general overheating of the body as a result of exposure to external thermal factors

4. a pathological condition caused mainly by exposure to an increased level of infrared radiation of the solar spectrum

03 Acclimatization is defined as

1. the process of adaptation of the human body to changing weather conditions

+2. complex socio-biological process of active adaptation to new climatic conditions

3. adaptation of the human body to changed temperature conditions

4. the process of successful adaptation to new climatic conditions

04 The process of stable acclimatization lasts

+1. between 2 and 5 years

2. less than 1 year

3. a month

4. a week

05 Thermal well-being/condition is

+1. quantitative subjective assessment of a person's thermal state

2. the total potential of thermal energy in the human body at the time of examination

3. subjective assessment of the body's state based on meteorological conditions or microclimate

4. subjective feeling of thermal comfort under appropriate environmental conditions

06 The most informative indicator reflecting the general thermal state of the body when measuring body temperature is

1. skin temperature measured in the armpit area

2. rectal temperature

+3. average skin temperature

4. temperature in the oral cavity

07. Photobiological reactions (effects) according to the postulates of photobiology

1. bioenergetic reactions, reflex reactions, stress reactions

2. photoregulatory reactions, destructive reactions, positive reactions

		+3. bioenergetic reactions, photoregulatory reactions, destructive reactions 4. positive reactions, negative reactions, photoregulatory reactions **08 The main effect of the biological action of ultraviolet radiation of region A is** +1. antirachitic (D-vitamin-forming) action 2. tanning (pigment-forming) action 3. bactericidal action 4. thermal action **09 The main effect of the biological action of ultraviolet radiation of region B is** 1. antirachitic (D-vitamin-forming) action +2. tanning (pigment-forming) action 3. bactericidal action 4. thermal action **10 The main effect of the biological action of ultraviolet radiation of region C is** 1. antirachitic (D-vitamin-forming) action 2. tanning (pigment-forming) action +3. bactericidal action 4. thermal action **11 Efficiency of air purification from dust is** 1. an indicator characterized by the ratio of the amount of dust in the air of the room after purification to the amount of dust in the air of the room before purification +2. an indicator characterized by the ratio of the amount of dust retained in the dust collector to the amount of dust before purification 3. an indicator characterized by the ratio of the amount of dust in the air of the room before purification to the amount of dust in the air of the room after purification 4. an indicator characterized by the ratio of the actual amount of dust in the air of the room to its standardized amount **12 The hygienic value of water is determined by** +1. use for cultural and everyday purposes, maintaining the cleanliness of the body, homes, public buildings, territories, etc. 2. use in the national economy, as a reservoir for cleaning and neutralizing wastewater 3. use for the implementation of personal hygiene principles, as the most important factor in maintaining homeostasis 4. use as an exogenous substrate to meet the human body's need for drinking water, to maintain acid-base balance in the body **13 The deficiency of fluorine in drinking water is associated with the spread of** 1. acid-base imbalance 2. fluorosis +3. caries 4. toxic lesions **14 Laser radiation (LR) is** 1. electromagnetic radiation (EMR) with high-energy properties

2. directed flow of EMF
3. EMR transmitted in space without wires
+4. EMR of the optical range, based on the use of forced (stimulated) radiation

15 Greenhouse gases include
1. argon, methane, ozone, sulfur dioxide
2. nitrogen, xenon, methane, carbon dioxide
+3. carbon dioxide, methane, ozone, water vapor
4. hydrogen sulfide, nitrogen dioxide, ozone, water vapor

Section 3. Hygienic aspects of human industrial activity

01 Physiology of labor, as a section of labor hygiene, solves the problem of
+1. scientific justification of optimal work and rest regimes for the health of workers
2. scientific justification of hygienic regulations for the organization of workplaces in "human-machine" systems
3. scientific justification of measures to reduce the impact of chemical factors of the production environment on the health of workers
4. scientific justification of measures to ensure optimal hygienic conditions of work: microclimate, noise, lighting, ventilation, waste management, etc.

02 A harmful factor of the working environment is
1. a factor of the environment and the work process, the impact of which on an employee can cause an occupational disease or cause disability
+2. a factor of the environment and the work process, the impact of which on an employee can cause an occupational disease or other health disorder, damage to the health of offspring
3. a factor of the environment and the work process, the impact of which on an employee can cause a decrease in his performance and productivity
4. a factor of the environment and the work process, the impact of which on an employee can cause a violation of his homeostasis

03 Hygienic criteria for the classification of working conditions are
1. indicators characterizing the degree of health disorders caused by harmful factors of the working environment and the work process
2. indicators characterizing the degree of health disorders of workers caused by harmful factors of the working environment and the work process
+3. indicators characterizing the degree of deviations of the parameters of factors of the working environment and the work process from the current hygienic standards
4. indicators characterizing working conditions and factors of the work process

04 Occupational disease is
1. a disease developing in workers engaged in a certain profession

		+2. a disease arising exclusively or mainly as a result of unfavorable working conditions and occupational hazards 3. a disease developing in workers with a long work experience as a result of unfavorable working conditions and occupational hazards 4. an acute disease (poisoning) arising in workers due to violation of standardized working conditions **05 Pneumoconiosis is** 1. chronic occupational lung diseases caused by harmful chemicals + 2. chronic occupational dust lung diseases, characterized by the development of fibrous changes 3. chronic occupational dust lung diseases caused by dust with a high content of free silicon dioxide (SiO_2) 4. chronic occupational lung diseases accompanied by chronic bronchitis **06 Silicosis is** 1. dust lung disease caused by inhalation of coal dust 2. dust lung disease caused by inhalation of fine-grained dust +3. pneumoconiosis caused by inhalation of quartz dust containing free silicon dioxide 4. dust lung disease caused by inhalation of coarse-grained dust **07 Phases of work performance are** 1. successive periods of changes in work performance, the characteristics of which are determined by biological rhythms 2. successive periods of changes in work performance throughout the day 3. successive periods of changes in work performance throughout the work shift +4. successive periods of changes in work performance throughout the day, work shift, work cycle, study time, etc. **07 Phases of working capacity are** 1. consecutive periods of changes in working capacity, the features of which are determined by biological rhythms 2. consecutive periods of performance changes throughout the day 3. consecutive periods of performance changes during the work shift +4. consecutive periods of performance changes throughout the day, work shift, work cycle, study time, etc. **08 Biologically hazardous zone of base stations or substations of cellular communications is** 1. zone corresponding to the size of the induction zone (near zone) around the source of EMF 2. zone corresponding to the size of the wave zone (radiation zone) around the source of EMF 3. zone corresponding to the size of the intermediate zone (interference zone) around the source of EMF +4. zone with increased levels of EMF parameters **09 EMF protection screens must contain** 1. uviol glass elements +2. metallic inclusions

		3. ion-exchange resin inclusions 4. light filters **10 Organizational measures for protection against EMI in the radio frequency range include** 1. shielding 2. rational placement of equipment +3. selection of rational operating modes of installations – sources of EMI 4. absorption of EMI power **11 Sanitary and hygienic methods of protection from laser radiation include** +1. limiting the time of exposure to radiation 2. rational placement of laser technological installations 3. using the minimum level to achieve the set goal 4. organization of the workplace **Section 5. Modern hygienic aspects of population nutrition** **01 Digestibility in relation to digestion is** 1. the degree of usefulness of a food product or nutrient for the implementation of physiological functions of the human body 2. the degree of penetration of structural elements of food through cell membranes 3. the ability of food components to be exposed to the action of enzymes +4. the proportion of a food product or nutrient directly used to ensure human life **02 Bioavailability in relation to digestion is** 1. the degree to which food components pass through the intestinal barrier +2. the degree to which a food substance becomes available to the intended tissue after administration or exposure. 3. a property of a food substance determined by its susceptibility to the action of enzymes 4. a property of a food substance determined by its ability to be absorbed in the gastrointestinal tract **03 Assimilability in relation to digestion is** +1. the degree of strain on the digestive system (digestive apparatus) during digestion, absorption, assimilation and metabolism of food or individual nutrients 2. the proportion of a food product or nutrient directly used to ensure human life 3. the degree of usefulness of a food product or nutrient for the implementation of physiological functions of the human body 4. the ability of food components to be exposed to enzymes **04 Nutrition science (dietetics) is** 1. a science that studies the properties and importance of food components +2. a general concept that integrates a set of sciences whose methodology helps solve the problems of population nutrition 3. a section of hygiene that studies the quality and

		importance of food products 4. a science that studies the processes of transformation (metabolism) of food components in the body **05 Rational nutrition is** +1. optimally selected set of traditional food products, standardized at the population level 2. nutrition determined by the socio-economic capabilities of a person or population 3. nutrition determined by the current level of socio-economic development of society 4. nutrition that involves the use of a rationally selected set of dishes and products **06 Specialized nutrition is** 1. nutrition using special rations taking into account the individual needs of the human body +2. rations for contingents with special conditions and life factors 3. special nutrition for relatively healthy people to prevent exposure to harmful factors 4. individual, rational nutrition **07 Nutritional value of food is** 1. a concept that characterizes the completeness of food according to the criterion of its content of proteins, fats, carbohydrates, vitamins, minerals and biologically active substances 2. a concept that reflects the degree to which the content of proteins, fats, carbohydrates, vitamins, minerals and biologically active substances in food corresponds to physiological norms +3. a concept that reflects the full range of useful properties of a food product, including the degree to which it satisfies the physiological needs of a person in essential substances, energy and organoleptic qualities 4. a concept that reflects the degree to which the organoleptic properties of food correspond to the established taste traditions of the population **08 Average daily food ration is** 1. the amount of food consumed by a person in a specific day +2. the amount of food consumed by a person in a day, calculated on average for a certain period of time the amount of nutrients in a daily set of food products and dishes 3. the average conditional level of nutrient content in a daily food ration 4. a ration taking into account the individual needs of the human body **09 Diet (nutrition regime) is** +1. the nature of food intake, determined by the time and conditions of its consumption, the distribution of food during the day by energy value and composition 2. the nature of nutrition, determined by the time and frequency of meals 3. features of the organization of individual nutrition or nutrition in organized groups

		4. the nature of food consumption, determined by habits and traditions in nutrition **10 Actual nutrition is** 1. nutrition that provides for a person's actual need for nutrients and energy 2. nutrition that actually ensures that nutrition meets physiological standards 3. actual human consumption of food products that meets hygienic recommendations +4. actual human consumption of food products and individual nutrients in their composition over a certain period of time **11 Nutritional status is** +1. the state of the human body, a group of people, a population, assessed in connection with nutritional characteristics 2. the actual consumption of food products and individual nutrients in their composition by a person over a certain period of time 3. a concept that characterizes diets according to the criterion of the content of proteins, fats, carbohydrates, vitamins, minerals and biologically active substances 4. a set and quantity of food products that satisfy a person's need for nutrients to maintain the optimal physiological status of the body **12 Proteins are** 1. complex organic compounds used in the body for plastic needs +2. high-molecular organic substances built from amino acid residues 3. high-molecular organic substances with high and varied biological activity 4. high-molecular organic substances contained mainly in products of animal origin **13 Amino acids are** 1. compounds based on amines organic acids with high biological activity 2. organic compounds based on biogenic amines +3. organic acids that make up proteins 4. a group of food components, mainly found in animal products **14 Carbohydrates are** 1. a group of organic food components that are the main source of energy for the body 2. a large group of complex organic food components whose monomers are monosaccharides +3. a large group of organic compounds whose chemical structure often corresponds to the formula $Cm(H_2O)n$ 4. a group of organic food components, mainly found in plant products **15 Fats (lipids) are** 1. organic components of food that are insoluble in water 2. organic components of food that are converted into fatty acids in the body

		3. organic compounds formed from fatty acid residues +4. organic compounds, mainly esters of glycerol and monobasic fatty acids (triglycerides)
		ANSWER LEVEL 2 TEST QUESTIONS (MULTIPLE CORRECT ANSWERS)
		Section 1. Sanitary science as a science and field of practical activity. **01 Knowledge of the basics of hygiene by medical specialists is necessary for** 1. increasing erudition, general outlook +2. implementation of deontological principles of the doctor's activity +3. ensuring sanitary and epidemiological well-being of medical organizations 4. to increase authority among colleagues **02 The main requirements for printed propaganda are** 1. aesthetic design +2. concreteness +3. visibility 4. availability of examples **03 The means of combined propaganda include** +1. theatrical productions 2. lectures and talks using presentations 3. materials in the media with illustrations +4. TV show **04 When implementing visual propaganda, the following are used** 1. presentations; +2. natural objects (demonstration of microscopic preparations, patient care items, etc.) 3. demonstration of patients +4 three-dimensional objects (models, dummies, mock-ups, sculptures, bas-reliefs, etc.) **05 The methodology of sanitary science includes** +1. laws and categories of dialectics +2. specific laws, regularities, postulates of hygiene 3. chemical methods 4. bacteriological methods **06 The decreed groups of the population include** +1. workers in food enterprises 2. workers in especially hazardous industries +3. workers in children's organizations 4. workers with a high level of nervous and mental stress **07 The features of the natural (ecological) environment that determine the level of public health include** 1. features of the human genome +2. features of biogeochemical provinces +3. solar activity 4. the possibility of a good rest **08 Methods of sanitary science include** +1. epidemiological method 2. economic method 3. psychological method +4. method of hygienic experiment

09 Knowledge of the basics of hygiene by medical specialists is necessary for

1. increasing erudition, general outlook
+2. implementation of deontological principles of the doctor's activity
+3. ensuring sanitary and epidemiological well-being of medical organizations
4. to increase authority among colleagues

10. Select two of the four principles of treatment according to Hippocrates, for the implementation of which knowledge of the basics of hygiene is of particular importance

+1. first of all, do no harm
2. the opposite is cured by the opposite
3. information about the patient should remain confidential
+4. treat not the disease, but the patient, that is, take into account the conditions of his life and the influence of the environment

Section 2. Hygienic aspects of the main factors and conditions of the human environment

01 The rigid constants of the body, in the regulation of which water plays a significant role, include

+1. osmotic pressure in the blood
2. body temperature
+3. acid-base balance in the body
4. metabolic rate in the body

02 The negative consequences of the winter monsoon on the body include

+1. spread of diseases associated with hypothermia
2. decrease in natural immunity
3. disruption of cellular and tissue respiration
+4. development of reactive states

03 Chemical activity of dust depends on

1. silicon dioxide content (SiO_2)
+2. degree of dispersion
+3. total surface area of dust particles
4. crystal lattice structure

04 The features of ultrasonic vibrations in comparison with sound vibrations include

1. more intensively propagated in air
+2. causes the phenomenon of acoustic cavitation in solid and liquid (mainly) media
+3. practically do not propagate in air
4. do not propagate in solid and liquid media

05 Excessive fluoride content in drinking water is associated with the spread of

+1. acid-base imbalance
+2. fluorosis
3. caries
4. kidney stone disease

06 Factors that shape and characterize climate include

+1. geographical latitude, which determines the influx of solar radiation

		2. the state of solar activity at a given time 3. air temperature at a given time in a given area +4. proximity to seas and oceans **07 Summer monsoon is characterized by** 1. high atmospheric pressure +2. high air humidity +3. low atmospheric pressure 4. high level of solar radiation **08 Winter monsoon is characterized by** +1. low air humidity 2. low atmospheric pressure +3. low precipitation 4. low solar radiation **09 The negative consequences of the summer monsoon on the body include** +1. decreased natural immunity +2. disruption of cellular and tissue respiration 3. development of reactive states 4. increased level of heat loss through sweat evaporation **10 The negative consequences of the winter monsoon on the body include** +1. spread of diseases associated with hypothermia 2. decrease in natural immunity 3. disruption of cellular and tissue respiration +4. development of reactive states **Section 3. Hygienic aspects of human industrial activity** **01 The following institutions have the right to diagnose occupational diseases** 1. medical organizations with more than 1000 beds +2. occupational pathology center of a regional, provincial, republican hospital 3. departmental medical organizations at large industrial enterprises +4. occupational pathology department of a regional, provincial, republican hospital **02 Concomitant factors that aggravate the harmful effects of vibration on the body are** +1. excessive physical load 2. low lighting 3. low level of air ionization +4. unfavorable microclimatic conditions **03 Medical and preventive measures to prevent the harmful effects of infrasound include** +1. periodic medical examinations +2. increasing the resistance of workers to the effects of infrasound 3. using personal protective equipment 4. regulating the organization of work and rest for workers **04 The features of ultrasonic vibrations in comparison with sound ones include** 1. they spread more intensively in the air +2. causes the phenomenon of acoustic cavitation in solid

		and liquid (mainly) media +3. practically do not spread in the air 4. Do not spread in solid and liquid media **05 Organizational and administrative measures for the prevention of harmful effects of noise include** +1. regulation of the organization of work and rest of workers 2. sanitary legislation in the field of labor protection +3. training of workers in the basics of labor protection 4. sanitary legislation in the field of ensuring the sanitary and epidemiological well-being of the population **06 The target organs when exposed to laser radiation are** 1. gonads +2. eyes +3. skin 4. brain **07 The adverse effects of infrasound include** 1. disruption of tissue respiration +2. disruption of the vestibular apparatus +3. asthenia of the body 4. depletion of the body's energy reserves **08 Technical and technological measures aimed at prevention of the harmful effects of infrasound include** 1. regulation of the organization of work and rest for workers +2. use of resonant absorbers that are effective in the low-frequency range +3. increase in the speed of process equipment 4. training workers in the basics of labor protection **09 Adverse effects of ultrasound include** 1. hearing loss 2. mental disorders +3. tissue destruction +4. cell destruction **10 Organizational and administrative measures for the prevention of harmful effects of ultrasound include** +1. regulation of the organization of work and rest of workers 2. legislation in the field of labor protection +3. training workers in the basics of labor protection 4. legislation in the field of ensuring the sanitary and epidemiological well-being of the population **Section 5. Modern hygienic aspects of population nutrition** **01 The biological effects of calcium include** +1. is the main component of complex salts of bone tissue 2. has an antioxidant effect +3. provides neuromuscular excitability 4. stimulates hematopoiesis **02 Calcium deficiency can lead to** 1. anemia +2. osteoporosis +3. thyroid dysfunction 4. hepatitis

		03 The biological effects of phosphorus include 1. stimulates hematopoiesis +2. is a structural component of nucleic acids +3. activates a number of enzymes 4. is an important component of antioxidant protection **04 Phosphorus deficiency can lead to** 1. anemia +2. osteoporosis 3. urolithiasis +4. decreased liver function **05 Iron absorption is reduced by** +1. fiber +2. soy protein 3. excess calcium 4. deficiency of flavonoids **06 Magnesium deficiency can lead to** 1. immunodeficiency 2. decreased thyroid function +3. adrenal exhaustion +4. increased blood pressure **07 Mark the factors that reduce the value of the basal metabolic rate** 1. increase in thyroid function +2. female +3. decrease in thyroid function 4. male **08 Alimentary diseases include** 1. diabetes +2. protein-energy malnutrition 3. food allergies +4. obesity associated with poor nutrition **09 Diseases with alimentary risk factors for pathology include** +1. diseases of the circulatory system 2. protein-energy malnutrition +3. diseases of the digestive system 4. microelementoses **10 The results of the study of dark adaptation of the visual analyzer allow us to judge** +1. the body's supply of retinol (vitamin A) 2. the body's supply of thiamine (vitamin B1) 3. the body's supply of cyanocobalamin (vitamin B12) +4. the body's supply of riboflavin (vitamin B2)

Assessment criteria

"Very good" – over 80% correct answers of questions of every level

"Good" – 70-79% correct answers of questions of every level

"Satisfactory" – 55-69% correct answers of questions of every level

"Unsatisfactory" – less than 55% correct answers of questions of every level

Interview questions

	Code	Competence description / name of labor function / name of work activity / text
S	31.05.01	General Medicine for international students (in English)

C	GPC-2	Is able to conduct and monitor the effectiveness of disease prevention measures, actions aimed at development of a healthy lifestyle, and health and hygiene education of the population
C	GPC-7	Is able to prescribe treatment and monitor its efficacy and safety
I		**ANSWER THE QUESTIONS** **Section 1. Sanitary science as a science and field of practical activity.** 01 The importance of health and hygiene education of the population in improvement of public health. 02 Current areas of activity in health and hygiene education of the population. 03 General characteristics of the main types, methods and means of health and hygiene education of the population. 04 Definition of the concept of health and hygiene education of the population. 05 The importance of health and hygiene education of the population in improvement of health of the population. 06 Principles of hygienic education and upbringing of the population. 07 Ranking of risk factors in public health disorders and priority areas of health and hygiene education of the population in modern conditions. 08 Means of health and hygiene education of the population. 09 Methods, forms, and means of population propaganda of hygienic knowledge. 10 Methods, forms and means of group propaganda of hygiene knowledge. 11 Methods, forms and means of individual propaganda of hygiene knowledge. 12 Requirements for oral propaganda of hygiene knowledge and its main means. 13 Requirements for printed propaganda of hygiene knowledge and its main means. 14 Requirements for combined (mixed) propaganda of hygiene knowledge and its main means. **Section 2. Hygienic aspects of the main factors and conditions of the human environment** 01 The essence of thermoregulation processes in the human body and their role in ensuring homeostasis. 02 Physiological and hygienic characteristics of the main disorders in the human body and diseases associated with the temperature factor of the environment. 03 The influence of air humidity on the processes of thermoregulation of the human body 04 Physiological and hygienic characteristics of the main disorders in the human body and diseases associated with air humidity. 05 The influence of air speed on the processes of thermoregulation of the human body and the role of this factor in ensuring homeostasis. 06 Physiological and hygienic characteristics of the main disorders in the human body associated with air speed. 07 Pathogenic role of atmospheric (barometric) pressure in the development of diseases and disorders (decompression sickness, altitude sickness, hypoxia, etc.). 08 Physiological and hygienic characteristics of the main disorders in the human body and diseases associated with radiant energy and UVR.

		09 Sources of air pollution in cities. 10 Name the types of impact of air pollution on the human body and explain their essence. 11 Types and features of natural ventilation organization. 12 Types and features of artificial (mechanical) ventilation. 13 Physiological and hygienic significance of water. 14 Infectious and non-infectious diseases transmitted by water; main directions of preventive measures. 15 The essence of natural and artificial biogeochemical provinces. 16 Fundamentals of photobiology as applied to problems of artificial lighting. 17 The main advantages of natural lighting over artificial light 18 Noise and vibration as unfavorable factors in the human environment and its industrial activities. **Section 3. Hygienic aspects of human industrial activity** 01 Electric, magnetic, and electromagnetic fields (EMF) as natural and man-made factors of the human habitat. 02 Modern classification of EMF based on physical properties. 03 Main sources of EMF and their hygienic characteristics. 04 Electrostatic fields; sources and general hygienic characteristic of electrostatic fields. 05 Vital capacity (VC). 06 Effect of nonionizing electromagnetic and electrostatic fields of various frequency and intensity. 07 Tidal Volume (TV). 08 Requirements for conducting live (natural) experiments in physiological express-methods. 09 Methods of examination of the cardiovascular system. 10 Functional stress-tests. 11 Methods of examination of the respiratory system. 12 Electrophysiological examination methods. 13 Psychophysiological assessment and methods of examination of the central nervous system. 14 Examination of the muscular system and muscle performance. 15 Assessment of the thermal status of a person. **Section 5. Modern hygienic aspects of population nutrition** 01 General aspects of the importance of population nutrition in the formation of public health. 02 The importance of nutrition studies for improving public health. 03 The main aspects of setting of standards in the field of nutrition. 04 General algorithm for studying the nutrition of different population groups. 05 Methods for assessing energy expenditure and human needs for nutrients; the essence of these methods. 06 Methods of assessing the actual nutrition of various population groups; the essence of these methods. 07 Methodology for assessing actual nutrition using the calculation method based on menu production records. 08 Examination of the health status of the population in connection with nutrition. 09 Concept and methods of determining nutritional status. 10 The main criteria for physiological and hygienic assessment of the

		state of actual nutrition and analysis of the results. 11 Features of population nutrition in modern conditions. 12 Classification and characteristics of the main diseases and disorders associated with nutrition. 13 Rational nutrition requirements. 14 Conceptual directions for optimizing population nutrition. 15 Food poisoning (definition) 16 Natural toxins (definition). 17 Diseases not included in the food poisoning category. 18 Classification of food poisoning. 19 Reasons for the high incidence of food poisoning. 20 Differentiation of outbreaks of microbial food poisoning and intestinal infections.

Assessment criteria

"Very good" grade is given to a student who possesses knowledge of the subject in full scope outlined in the curriculum, has a sufficiently deep insight into the subject; is able to answer all questions clearly, exhaustively, and with no outside help; structures their answers logically, with emphasis on the most important information; is able to analyze, compare, classify, summarize, refine, and structure the course content, giving particular attention to cause-and-effect relationships.

"Good" is given to a student whose knowledge of the subject is almost in full scope outlined in the curriculum (gaps are only present in the knowledge of some especially complex aspects); is able to answer questions exhaustively with little to no outside help; does not always put emphasis on the most important information, but does not make significant mistakes.

"Satisfactory" is given to a student who possesses the bulk of knowledge on the subject; has difficulties answering questions with no outside help, uses imprecise wording; makes mistakes in substantial number of their answers.

"Unsatisfactory" is given to a student who does not have the mandatory minimum of knowledge on the subject, is not able to give an answer even with additional guiding questions.

Standardized case studies and checklists for the **Б1.О.18 Sanitary science and fundamentals of dietetics** course

Case Study No. 1

	Code	**Competence description / name of labor function / name of work activity / text**
S	31.05.01	General Medicine for international students (in English)
C	GPC-2	Is able to conduct and monitor the effectiveness of disease prevention measures, actions aimed at development of a healthy lifestyle, and health and hygiene education of the population
C	GPC-7	Is able to prescribe treatment and monitor its efficacy and safety
I		READ THE PROVIDED CASE DESCRIPTION AND GIVE DETAILED ANSWERS TO THE QUESTIONS It is necessary to determine the regulations for therapeutic and preventive UV radiation using a biodosimeter. EUV-15 lamp was selected as a source of UVR. The period of irradiation which resulted in an erythemic reaction (redness) on the irradiated skin areas was (in minutes): 0,5; 1,0; 1,5; 2,0; 2,5; 3,0.

Q		Questions: Determine: 1) biodose; 2) correct choice of lamp for therapeutic and prophylactic UV irradiation; 3) time of viewing irradiated skin areas in the biodosimeter holes after the start of UVR exposure; 4) therapeutic dose of UVR when using a given UVR source (assume the therapeutic dose is equal to 0.8 biodose); 5) prophylactic dose of UVR when using a given UVR source (assume the prophylactic dose is equal to 0.1 biodose). Give recommendations on the safety of therapeutic and prophylactic ultraviolet irradiation sessions in a photorium.

Case Study No.1 Checklist

	Code	**Competence description / name of labor function / name of work activity / text**
S	31.05.01	General Medicine for international students (in English)
C	GPC-2	Is able to conduct and monitor the effectiveness of disease prevention measures, actions aimed at development of a healthy lifestyle, and health and hygiene education of the population
C	GPC-7	Is able to prescribe treatment and monitor its efficacy and safety
I		READ THE PROVIDED CASE DESCRIPTION AND GIVE DETAILED ANSWERS TO THE QUESTIONS It is necessary to determine the regulations for therapeutic and preventive UV radiation using a biodosimeter. EUV-15 lamp was selected as a source of UVR. The period of irradiation which resulted in an erythemic reaction (redness) on the irradiated skin areas was (in minutes): 0,5; 1,0; 1,5; 2,0; 2,5; 3,0.
Q	1	Questions: Determine: 1) biodose; 2) correct choice of lamp for therapeutic and prophylactic UV irradiation; 3) time of viewing irradiated skin areas in the biodosimeter holes after the start of UVR exposure; 4) therapeutic dose of UVR when using a given UVR source (assume the therapeutic dose is equal to 0.8 biodose); 5) prophylactic dose of UVR when using a given UVR source (assume the prophylactic dose is equal to 0.1 biodose). Give recommendations on the safety of therapeutic and prophylactic ultraviolet irradiation sessions in a photorium.
A		Correct answer: 1) Biodose is 30 s (0.5 min).

		2) The EUV-15 lamp is selected correctly. 3) The time for viewing skin areas in the holes of the biodosimeter after the start of UVR is 6 hours. 4) The therapeutic dose of UVR is 30 s (0,5 min) × 0,8 = 24 s. 5) Prophylactic dose of UVR 30 s (0,5 min)×0.1=3 s. **Safety recommendations** for conducting sessions of therapeutic and prophylactic ultraviolet irradiation in a photarium: 1) Strict adherence to the selected radiation doses, as well as the distance from the irradiated person to the radiation source, which should correspond to the distance at which the biodose was selected. 2) Protecting the eyes of irradiated persons and personnel with dark goggles. 3) The distance between irradiated persons should be 30-40 cm. 4) Conducting 16-20 daily sessions (or every other day) with subsequent two-month breaks, after which the irradiation cycle is repeated. 5) Beginning sessions with minimum doses with their subsequent increase according to special schemes. 6) Compliance of the actual photarium area with the calculated one.
R2	Very good	Correct solution and detailed answers are given
R1	Good/Satisfactory	Correct solution and concise answers are given. The student has made a mistake in the indicators, but followed the correct algorithm and is able to correct the mistake without outside help.
R0	Fail	The student does not know how to find the solution

Case Study No. 2

	Code	**Competence description / name of labor function / name of work activity / text**
S	31.05.01	General Medicine for international students (in English)
C	GPC-2	Is able to conduct and monitor the effectiveness of disease prevention measures, actions aimed at development of a healthy lifestyle, and health and hygiene education of the population
C	GPC-7	Is able to prescribe treatment and monitor its efficacy and safety
I		READ THE PROVIDED CASE DESCRIPTION AND GIVE DETAILED ANSWERS TO THE QUESTIONS An orthostatic test was performed to study the excitability of the sympathetic nervous system. Measurement results: Heart rate after 5 minutes of resting in lying position – 62 bpm; heart rate during the first 15 seconds in the standing position in– 80 bpm; Heart rate at the end of the first minute in standing position – 72 bpm.

Q		Questions: Assess the state of the cardiovascular system's regulatory mechanisms, its ability to effectively respond to physical activity and the degree of physical fitness of the body based on the results of the first minute of the orthostatic test.

Case Study No.2 Checklist

	Code	**Competence description / name of labor function / name of work activity / text**
S	31.05.01	General Medicine for international students (in English)
C	GPC-2	Is able to conduct and monitor the effectiveness of disease prevention measures, actions aimed at development of a healthy lifestyle, and health and hygiene education of the population
C	GPC-7	Is able to prescribe treatment and monitor its efficacy and safety
I		READ THE PROVIDED CASE DESCRIPTION AND GIVE DETAILED ANSWERS TO THE QUESTIONS An orthostatic test was performed to study the excitability of the sympathetic nervous system. Measurement results: Heart rate after 5 minutes of resting in lying position – 62 bpm; heart rate during the first 15 seconds in the standing position in– 80 bpm; Heart rate at the end of the first minute in standing position – 72 bpm.
Q	1	Questions: Assess the state of the cardiovascular system's regulatory mechanisms, its ability to effectively respond to physical activity and the degree of physical fitness of the body based on the results of the first minute of the orthostatic test.
A		Correct answer: The orthostatic test characterizes the excitability of the sympathetic division of the autonomic nervous system. When moving from a horizontal position (clinostatic) to a vertical one (orthostatic), the tone of the sympathetic division of the autonomic nervous system and the heart rate increase. This allows us to assess: the state of the mechanisms regulating the cardiovascular system, its ability to effectively respond to physical activity; the degree of physical fitness of the body. The result of the first minute of the orthostatic test From 0 to +10 is excellent.
R2	Very good	Correct solution and detailed answers are given
R1	Good/Satisfactory	Correct solution and concise answers are given. The student has made a mistake in the indicators, but followed the correct algorithm and is able to correct the mistake without outside help.
R0	Fail	The student does not know how to find the solution

Case Study No. 3

	Code	Competence description / name of labor function / name of work activity / text
S	31.05.01	General Medicine for international students (in English)
C	GPC-2	Is able to conduct and monitor the effectiveness of disease prevention measures, actions aimed at development of a healthy lifestyle, and health and hygiene education of the population
C	GPC-7	Is able to prescribe treatment and monitor its efficacy and safety
I		READ THE PROVIDED CASE DESCRIPTION AND GIVE DETAILED ANSWERS TO THE QUESTIONS A harmful and dangerous production factor at one of the enterprises is crystalline silicon dioxide (a-quartz, a-cristobalite, a-tridymite).
Q		Questions: Determine the frequency of mandatory periodic medical examinations of the enterprise employees. Determine the medical specialists who should participate in the implementation of periodic medical examinations. Determine the necessary laboratory and functional studies

Case Study No.3 Checklist

	Code	Competence description / name of labor function / name of work activity / text
S	31.05.01	General Medicine for international students (in English)
C	GPC-2	Is able to conduct and monitor the effectiveness of disease prevention measures, actions aimed at development of a healthy lifestyle, and health and hygiene education of the population
C	GPC-7	Is able to prescribe treatment and monitor its efficacy and safety
I		READ THE PROVIDED CASE DESCRIPTION AND GIVE DETAILED ANSWERS TO THE QUESTIONS A harmful and dangerous production factor at one of the enterprises is crystalline silicon dioxide (a-quartz, a-cristobalite, a-tridymite).
Q	1	Questions: Determine the frequency of mandatory periodic medical examinations of the enterprise employees. Determine the medical specialists who should participate in the implementation of periodic medical examinations. Determine the necessary laboratory and functional studies
A		Correct answer: To solve the problem, we must work with the table of Appendix No.1 to Order No. 29n of the Ministry of Health of the Russian Federation "List of harmful and (or) hazardous production factors, in the presence of which mandatory preliminary and periodic medical examinations (surveys) are carried out". In the second column of the table, we find the harmful and hazardous production factors that correspond to the condition of the problem (in this case, these factors have the number

		1.1.4.1). Then we write out from the table the necessary information, placed in the corresponding columns of the table of Appendix 1, taking into account the notes of the footnote to the table. The frequency of mandatory periodic medical examinations of enterprise employees is once every 2 years. Medical specialists who must participate in the implementation of periodic medical examinations: dermatovenerologist, otolaryngologist, oncologist (on the recommendation of medical specialists), urologist (on the recommendation of medical specialists). Necessary laboratory tests and diagnostic procedures: spirometry, chest X-ray in two projections once every 2 years, quantitative content of a1-antitrypsin (as recommended by medical specialists).
R2	Very good	Correct solution and detailed answers are given
R1	Good/Satisfactory	Correct solution and concise answers are given. The student has made a mistake in the indicators, but followed the correct algorithm and is able to correct the mistake without outside help.
R0	Fail	The student does not know how to find the solution

Case Study No. 4

	Code	**Competence description / name of labor function / name of work activity / text**
S	31.05.01	General Medicine for international students (in English)
C	GPC-2	Is able to conduct and monitor the effectiveness of disease prevention measures, actions aimed at development of a healthy lifestyle, and health and hygiene education of the population
C	GPC-7	Is able to prescribe treatment and monitor its efficacy and safety
I		READ THE PROVIDED CASE DESCRIPTION AND GIVE DETAILED ANSWERS TO THE QUESTIONS A 15-year-old young man weighs 65 kg.
Q		Questions: Calculate the energy expenditure at rest of this young man based on his body weight.

Case Study No.4 Checklist

	Code	**Competence description / name of labor function / name of work activity / text**
S	31.05.01	General Medicine for international students (in English)
C	GPC-2	Is able to conduct and monitor the effectiveness of disease prevention measures, actions aimed at development of a healthy lifestyle, and health and hygiene education of the population
C	GPC-7	Is able to prescribe treatment and monitor its efficacy and safety
I		READ THE PROVIDED CASE DESCRIPTION AND GIVE

		DETAILED ANSWERS TO THE QUESTIONS A 15-year-old young man weighs 65 kg.
Q	1	Questions: Calculate the energy expenditure at rest of this young man based on his body weight.
A		Correct answer: Energy expenditure at rest = (17,5 × 65) + 651 = 1788,5 kcal/day
R2	Very good	Correct solution and detailed answers are given
R1	Good/Satisfactory	Correct solution and concise answers are given. The student has made a mistake in the indicators, but followed the correct algorithm and is able to correct the mistake without outside help.
R0	Fail	The student does not know how to find the solution

Case Study No. 5

	Code	**Competence description / name of labor function / name of work activity / text**
S	31.05.01	General Medicine for international students (in English)
C	GPC-2	Is able to conduct and monitor the effectiveness of disease prevention measures, actions aimed at development of a healthy lifestyle, and health and hygiene education of the population
C	GPC-7	Is able to prescribe treatment and monitor its efficacy and safety
I		READ THE PROVIDED CASE DESCRIPTION AND GIVE DETAILED ANSWERS TO THE QUESTIONS Determine the required ventilation volume per person under the following conditions: - students in practical classes, teacher; - standard value of CO_2 concentration – 0.07% (0.7‰).
Q		Questions: Determine the required ventilation volume per 1 person

Case Study No.5 Checklist

	Code	**Competence description / name of labor function / name of work activity / text**
S	31.05.01	General Medicine for international students (in English)
C	GPC-2	Is able to conduct and monitor the effectiveness of disease prevention measures, actions aimed at development of a healthy lifestyle, and health and hygiene education of the population
C	GPC-7	Is able to prescribe treatment and monitor its efficacy and safety
I		READ THE PROVIDED CASE DESCRIPTION AND GIVE DETAILED ANSWERS TO THE QUESTIONS Determine the required ventilation volume per person under the

		following conditions: - students in practical classes, teacher; - standard value of CO_2 concentration – 0.07% (0.7‰).
Q	1	Questions: Determine the required ventilation volume per 1 person
A		Correct answer: According to the above data, students emit 22.6 L/h of CO_2 during practical classes. Thus, we have all the initial data to solve the problem using the formula: Z= k/(p -q), where Z is the required volume of air per person, m3 per 1 hour; k is the number of liters of CO_2 exhaled by a person per hour; p is the permissible content of carbon dioxide (CO_2) in the air of classrooms, 0.7 ppm (0,7 ‰); q is the content of carbon dioxide (CO_2) in the outside air, 0.4 ‰. We substitute the corresponding values of the initial indicators into the formula and obtain the required ventilation volume per person in the classroom during practical classes: Z= 22,6/(0,7-0,4)=75,33 m^3/h.
R2	Very good	Correct solution and detailed answers are given
R1	Good/Satisfactory	Correct solution and concise answers are given. The student has made a mistake in the indicators, but followed the correct algorithm and is able to correct the mistake without outside help.
R0	Fail	The student does not know how to find the solution

Case Study No. 6

	Code	**Competence description / name of labor function / name of work activity / text**
S	31.05.01	General Medicine for international students (in English)
C	GPC-2	Is able to conduct and monitor the effectiveness of disease prevention measures, actions aimed at development of a healthy lifestyle, and health and hygiene education of the population
C	GPC-7	Is able to prescribe treatment and monitor its efficacy and safety
I		READ THE PROVIDED CASE DESCRIPTION AND GIVE DETAILED ANSWERS TO THE QUESTIONS The man's heart rate during the work was 105 beats per minute. The duration of this work was 120 minutes (2 hours).
Q		Questions: Determine the energy expenditure of a man for a given type of activity of a specified duration based on heart rate.

Case Study No.6 Checklist

	Code	Competence description / name of labor function / name of work activity / text
S	31.05.01	General Medicine for international students (in English)
C	GPC-2	Is able to conduct and monitor the effectiveness of disease prevention measures, actions aimed at development of a healthy lifestyle, and health and hygiene education of the population
C	GPC-7	Is able to prescribe treatment and monitor its efficacy and safety
I		READ THE PROVIDED CASE DESCRIPTION AND GIVE DETAILED ANSWERS TO THE QUESTIONS The man's heart rate during the work was 105 beats per minute. The duration of this work was 120 minutes (2 hours).
Q	1	Questions: Determine the energy expenditure of a man for a given type of activity of a specified duration based on heart rate.
A		Correct answer: Energy expenditure at this heart rate is 5.60 kcal/min. We find the energy expenditure of a man per day for this type of activity: $5.60 \times 120 = 672$ kcal/day
R2	Very good	Correct solution and detailed answers are given
R1	Good/Satisfactory	Correct solution and concise answers are given. The student has made a mistake in the indicators, but followed the correct algorithm and is able to correct the mistake without outside help.
R0	Fail	The student does not know how to find the solution

Case Study No. 7

	Code	Competence description / name of labor function / name of work activity / text
S	31.05.01	General Medicine for international students (in English)
C	GPC-2	Is able to conduct and monitor the effectiveness of disease prevention measures, actions aimed at development of a healthy lifestyle, and health and hygiene education of the population
C	GPC-7	Is able to prescribe treatment and monitor its efficacy and safety
I		READ THE PROVIDED CASE DESCRIPTION AND GIVE DETAILED ANSWERS TO THE QUESTIONS During the inspection of the conference hall of the organization, specialists assessed the artificial lighting in this room and found the following: - the conference hall has 40 direct-light luminaires with gas-discharge lamps with a power of 150 W each; - the voltage in the network is 220 V;

		- the area of the room is 100 m^2.
Q		Questions: Calculate the specific lighting power of all light sources in the room. Calculate the minimum illumination value in the conference room in lx.

Case Study No.7 Checklist

	Code	**Competence description / name of labor function / name of work activity / text**
S	31.05.01	General Medicine for international students (in English)
C	GPC-2	Is able to conduct and monitor the effectiveness of disease prevention measures, actions aimed at development of a healthy lifestyle, and health and hygiene education of the population
C	GPC-7	Is able to prescribe treatment and monitor its efficacy and safety
I		READ THE PROVIDED CASE DESCRIPTION AND GIVE DETAILED ANSWERS TO THE QUESTIONS During the inspection of the conference hall of the organization, specialists assessed the artificial lighting in this room and found the following: - the conference hall has 40 direct-light luminaires with gas-discharge lamps with a power of 150 W each; - the voltage in the network is 220 V; - the area of the room is 100 m^2.
Q	1	Questions: Calculate the specific lighting power of all light sources in the room. Calculate the minimum illumination value in the conference room in lx.
A		Correct answer: 1. Calculate the specific lighting power of all light sources in the room. To do this, add up the power of all lamps: 40×150 = 6000 W. Next, divide 6000 W by the area of the room (100 m^2) and get P = 60 W/m^2. 2. Knowing the specific power, calculate the horizontal illumination using the formula: E = (P × B) / (10 × K), where E is the desired horizontal illumination, lx; P is the specific lighting power caused by all light sources in the room (W/m^2); B is the illumination created by a lamp of a certain power with a specific energy consumption of 10 W/m^2, determined according to Table 8 of the methodological manual; K is the safety factor, which is in most cases is assumed to be equal to 1.3. According to Table 8 of the methodological manual, we find B – the illumination created by a lamp of a certain power at a specific energy consumption of 10 W/m^2 at a network voltage of 220 V according to the case statement and direct light. We

		get 31.0 lx. Next, the calculation is carried out according to the formula mentioned above. We substitute the corresponding values into the formula and obtain the answer to the 2nd question: E = (60 × 31) / (10 × 1.3) = 143.07 ~ 143.1 lx
R2	Very good	Correct solution and detailed answers are given
R1	Good/Satisfactory	Correct solution and concise answers are given. The student has made a mistake in the indicators, but followed the correct algorithm and is able to correct the mistake without outside help.
R0	Fail	The student does not know how to find the solution

Case Study No. 8

	Code	**Competence description / name of labor function / name of work activity / text**
S	31.05.01	General Medicine for international students (in English)
C	GPC-2	Is able to conduct and monitor the effectiveness of disease prevention measures, actions aimed at development of a healthy lifestyle, and health and hygiene education of the population
C	GPC-7	Is able to prescribe treatment and monitor its efficacy and safety
I		READ THE PROVIDED CASE DESCRIPTION AND GIVE DETAILED ANSWERS TO THE QUESTIONS – the mass of the filter before sampling is 132 mg; – the mass of the filter with dust after sampling is 134 mg; – the volume of air selected for analysis and adjusted to the standard conditions is 100 dm^3.
Q		Questions: Calculate the concentration of dust in the atmospheric air under the specified conditions

Case Study No.8 Checklist

	Code	**Competence description / name of labor function / name of work activity / text**
S	31.05.01	General Medicine for international students (in English)
C	GPC-2	Is able to conduct and monitor the effectiveness of disease prevention measures, actions aimed at development of a healthy lifestyle, and health and hygiene education of the population
C	GPC-7	Is able to prescribe treatment and monitor its efficacy and safety
I		READ THE PROVIDED CASE DESCRIPTION AND GIVE DETAILED ANSWERS TO THE QUESTIONS – the mass of the filter before sampling is 132 mg; – the mass of the filter with dust after sampling is 134 mg; – the volume of air selected for analysis and adjusted to the

		standard conditions is 100 dm^3.
Q	1	Questions: Calculate the concentration of dust in the atmospheric air under the specified conditions
A		Correct answer: $K_d=((m_d - m_0)\times 1000) / V_{20}$, where Kd is the concentration of dust in the air in a separate sample, mg/m3; m_o is the mass of the filter before sampling, mg; m_d is the mass of the filter (accumulator) with dust after sampling, mg; 1000 is the conversion of dm to m^3; V_{20} is the volume of air sampled for analysis and reduced to standard conditions, dm^3. We substitute the values of the corresponding indicators according to the problem statement into the given formula and obtain the desired concentration of dust in the air: $K_d=((134-132)\times 1000)/100=20$ mg/m^3.
R2	Very good	Correct solution and detailed answers are given
R1	Good/Satisfactory	Correct solution and concise answers are given. The student has made a mistake in the indicators, but followed the correct algorithm and is able to correct the mistake without outside help.
R0	Fail	The student does not know how to find the solution

Case Study No. 9

	Code	**Competence description / name of labor function / name of work activity / text**
S	31.05.01	General Medicine for international students (in English)
C	GPC-2	Is able to conduct and monitor the effectiveness of disease prevention measures, actions aimed at development of a healthy lifestyle, and health and hygiene education of the population
C	GPC-7	Is able to prescribe treatment and monitor its efficacy and safety
I		READ THE PROVIDED CASE DESCRIPTION AND GIVE DETAILED ANSWERS TO THE QUESTIONS A male office worker weighs 75 kg. Work duration is 7 hours.
Q		Questions: Determine the energy expenditure for a given type of activity per day using the time-table method.

Case Study No.9 Checklist

	Code	**Competence description / name of labor function / name of work activity / text**
S	31.05.01	General Medicine for international students (in English)

C	GPC-2	Is able to conduct and monitor the effectiveness of disease prevention measures, actions aimed at development of a healthy lifestyle, and health and hygiene education of the population
C	GPC-7	Is able to prescribe treatment and monitor its efficacy and safety
I		READ THE PROVIDED CASE DESCRIPTION AND GIVE DETAILED ANSWERS TO THE QUESTIONS A male office worker weighs 75 kg. Work duration is 7 hours.
Q	1	Questions: Determine the energy expenditure for a given type of activity per day using the time-table method.
A		Correct answer: Specific energy expenditure for this type of activity is 0.0277 kcal/kg/min. Energy expenditure = $0.0277 \times 75 \times 420 = 872.55$ kcal/day
R2	Very good	Correct solution and detailed answers are given
R1	Good/Satisfactory	Correct solution and concise answers are given. The student has made a mistake in the indicators, but followed the correct algorithm and is able to correct the mistake without outside help.
R0	Fail	The student does not know how to find the solution

Case Study No. 10

	Code	**Competence description / name of labor function / name of work activity / text**
S	31.05.01	General Medicine for international students (in English)
C	GPC-2	Is able to conduct and monitor the effectiveness of disease prevention measures, actions aimed at development of a healthy lifestyle, and health and hygiene education of the population
C	GPC-7	Is able to prescribe treatment and monitor its efficacy and safety
I		READ THE PROVIDED CASE DESCRIPTION AND GIVE DETAILED ANSWERS TO THE QUESTIONS Rosenthal's breathing test was performed; vital capacity of the lungs (VCL) was determined five times, with an interval of 15 seconds; the results were: VCL_1 – 2500; VCL_2 – 2600; VCL_3 – 2680; VCL_4 – 2800; VCL_5 – 2950.
Q		Questions: Assess the functional capabilities of the respiratory system based on the level of endurance of the respiratory muscles.

Case Study No.10 Checklist

	Code	**Competence description / name of labor function / name of work activity / text**

S	31.05.01	General Medicine for international students (in English)
C	GPC-2	Is able to conduct and monitor the effectiveness of disease prevention measures, actions aimed at development of a healthy lifestyle, and health and hygiene education of the population
C	GPC-7	Is able to prescribe treatment and monitor its efficacy and safety
I		READ THE PROVIDED CASE DESCRIPTION AND GIVE DETAILED ANSWERS TO THE QUESTIONS Rosenthal's breathing test was performed; vital capacity of the lungs (VCL) was determined five times, with an interval of 15 seconds; the results were: VCL_1 – 2500; VCL_2 – 2600; VCL_3 – 2680; VCL_4 – 2800; VCL_5 – 2950.
Q	1	Questions: Assess the functional capabilities of the respiratory system based on the level of endurance of the respiratory muscles.
A		Correct answer: The Rosenthal test is used to assess the endurance of the respiratory muscles. Method: the subject's vital capacity is measured 5 times with an interval of 15 seconds. Evaluation principles: the vital capacity value increases by more than 300 ml by the last measurement – good.
R2	Very good	Correct solution and detailed answers are given
R1	Good/Satisfactory	Correct solution and concise answers are given. The student has made a mistake in the indicators, but followed the correct algorithm and is able to correct the mistake without outside help.
R0	Fail	The student does not know how to find the solution

4. Assessment criteria for learning outcomes

"Very good" grade is given to a student who possesses knowledge of the subject in full scope outlined in the curriculum, has a sufficiently deep insight into the subject; is able to answer all questions clearly, exhaustively, and with no outside help; structures their answers logically, with emphasis on the most important information; is able to analyze, compare, classify, summarize, refine, and structure the course content, giving particular attention to cause-and-effect relationships.

"Good" is given to a student whose knowledge of the subject is almost in full scope outlined in the curriculum (gaps are only present in the knowledge of some especially complex aspects); is able to answer questions exhaustively with little to no outside help; does not always put emphasis on the most important information, but does not make significant mistakes.

"Satisfactory" is given to a student who possesses the bulk of knowledge on the subject; has difficulties answering questions with no outside help, uses imprecise wording; makes mistakes in substantial number of their answers.

"Unsatisfactory" is given to a student who does not have the mandatory minimum of knowledge on the subject, is not able to give an answer even with additional guiding questions.