

TESTS ON THE EXAM "HYGIENE AND ECOLOGY"
for training second (master's) level of higher education
Knowledge 22 "Health"
Specialty 222 "Medicine"

1. The basal metabolism of a 40-year-old builder is 1700 kcal. Calculate the daily energy expenditure (kcal).
 - A. 2380
 - B. 2720
 - C. 3230
 - D. 3910
 - E. 3060

2. The analysis of situation in Ukraine after the Chernobyl catastrophe required the classification characteristic taking into account the large scale consequences. To what type of the communal catastrophe it should be referred?
 - A. global;
 - B. regional;
 - C. local;
 - D. point;
 - E. fuel

3. Regulation of irradiation level of workers out of the personnel engaged in elimination of the radiation catastrophe consequences admits the maximal permissible irradiation dose equal to:
 - A. 50 mZv/y;
 - B. 40 mZv/y;
 - C. 30 mZv/y;
 - D. 20 mZv/y;
 - E. 10 mZv/y

4. After the nuclear explosion on the Chernobyl atomic station along with the urgent works as to the stabilization and control resumption over the irradiation sources, the immediate warrant counteractions (which proved to be correct) were taken in order to prevent the disaster-related irradiation of population. Choose the proper actions:
 - A. activities, when the prevented dose is equal to the levels of radiation injuries;
 - B. restrictions in behavior;
 - C. prohibition water consumption from the local sources;
 - D. prohibition of definite food products consumption;
 - E. deactivation (radioactive decontamination) of the territory

5. The value of daily ration of a nurse is 2160 kcal, 25 % of them is fats. How many gramms of fats does the daily ration contain?
 - A. 40
 - B. 50
 - C. 60
 - D. 70
 - E. 80

6. In the air of one of production apartments of a pharmaceutical enterprise the content of antitumor medications exceeds their admissible level more than 10 times. What class of labour is considered in such conditions?
 - A. Possible
 - B. Harmful of the 1st degree
 - C. Harmful of the 2nd degree
 - D. Harmful of the 3rd degree
 - E. Harmful of the 4th degree

7. The results of examination of water from a mine well showed that its transparency is 35 cm, colour – 40°, taste – 2 points, smell – 3 points, total microbial number – 160. Which of the given indexes do not correspond to the hygienic requirements?
- Transparency
 - Colour
 - Taste
 - Smell
 - Total microbial number
8. The thermal comfort of workers of surgical department depends mainly on humidity and temperature of the air in an apartment. The combination of which of these factors is responsible for violation of heat emission and overheat of the organism?
- High temperature and low humidity
 - Optimal temperature and high humidity
 - High temperature and high humidity
 - Low temperature and high humidity
 - Low temperature and optimal humidity
9. At the laboratory research of a sample of water, the presence of chlorine organic substances was determined, in particular, of chloroform. What would be expedient to use for the removal of these hazardous substances?
- Electrodialyze of the water
 - Hyperfiltration
 - Aeration of the water
 - Respiration
 - Filtration
10. A builder executed a work outdoors on the height of 8-floor building in the conditions of cloudless sun, calm weather, increased temperature (30°C) and relative humidity - 70 %. At the end of working day he felt head pain, muscular weakness, dizziness, violation of coordination of motions. Objectively: pulse and breathing frequency is speeded-up, temperature of body is 37.2°C. About what disease can one most probably think with such a clinical picture?
- Height disease
 - Sun stroke
 - Heat stroke
 - Convulsive illness
 - Mountain illness
11. A workwoman of an accumulator workshop of a car repair service enterprise levitates from a floor for the first half of work 10 accumulators, and for the second – 7, the mass is 15 kg each. Define the class of labour conditions after the indexes of weight of a labour process.
- Optimal
 - Admissible
 - Harmful
 - Dangerous
 - Extreme
12. While determine separate parameters of microclimate in a lecture audience was set, that the temperature of the air was 20°C, variation between the temperature of the air and temperature of walls is 2,5°C, variation of temperature on a horizontal line is 2,5°C, on a vertical line is 2,0°C, relative humidity is 70 %. Which of the following microclimatic indexes have been violated in comparison with the hygienic requirements?
- Temperature of the air
 - Difference between the temperature of the air and the temperature of walls
 - Variation of temperatures on a horizontal line

- D. Variation of temperatures on a vertical line
 - E. Relative humidity
13. Work of a machinist at one metallurgical factory requires the concentrated supervision after a technological process during 70% of his working time. For one hour it is necessary to process 175 informative signals. In emergency situations it is necessary to make quick decisions in the terms of large deficit of time, next to danger and high responsibility. Which of the following indexes of labour process is not characteristic of the described type of labour?
- A. Intellectual load
 - B. Sensor load
 - C. Physical dynamic load
 - D. Nervous-emotional load
 - E. Significance of errors
14. The microclimate of an apartment is of the following parameters: temperature of the air – 40°C; relative humidity – 100%; rate of movement of the air – 0.1 m/s; radiation temperature – 80°C. Denote the most credible pathological state of the organism in such conditions:
- A. General hyperthermia (heat-shock)
 - B. Decreased work capacity
 - C. Violation in the system of blood circulation
 - D. Violation of the respiratory system
 - E. Local hyperthermia
15. A surgeon of an orthopaedic department during operation, that lasts for 4 hours, leans over an operating field more than 300 times with the angle of slope more than 30°, executes work in the conditions of deficit of time and with the large emotional loading. What class is it possible to take the terms of his labour to?
- A. Optimal
 - B. Admissible
 - C. Harmful
 - D. Dangerous
 - E. Extreme
16. At the inspection of servicemen during implementation of an educational task at one of submarine boats, they complained on the head pain, tachycardia, dyspnoea and decrease of workability. During laboratory examination acidosis and increased content of carbaemoglobin was determined. What level of CO₂ (%) in the air could result in these clinical signs?
- A. 0,1-0,2
 - B. 1-2
 - C. 4-5
 - D. 8-10
 - E. 15-20
17. A surgeon executes an operation duration of which makes 3 hours. The working pose is standing in the inclined position up to 30° that takes 60% of total time. Common time of concentration makes up to 90%. During the operation the surgeon must make decisions of the high responsibility concerning patient's life in the conditions of deficit of time. Which of the following indexes characterize intensity (hardness) of the labour process?
- A. Time of concentration
 - B. Working pose
 - C. Deficit of time
 - D. Rate of responsibility
 - E. Duration of the operation
18. A boy of 13 years old suffers from bronchoectatic illness in the stage of subcompensation, every year he has pneumonia. What group of health can the boy be taken to?
- A. The 5th group of health

- B. The 4th group of health
 - C. The 3rd group of health
 - D. The 2nd group of health
 - E. The 1st group of health
19. For estimation of the degree of school maturity of 6-years-old children the diagnostic test after Kern-Irasek was applied, pursuant to which the total assessment of the accomplishment of task made 3–4 points. What is the degree of school readiness at the inspected children?
- A. High;
 - B. Middle;
 - C. Low;
 - D. They are not ready after the level of physical development;
 - E. They are ready after the indexes of physical development.
20. For consumption is used the water with smell of 0 marks, colour– 20°, transparency – 32 sm, turbidness – 0,7 mg/dm³. Give hygienical estimation to organoleptic properties of the water.
- A. Increased turbidness
 - B. Decreased transparency
 - C. The level of all indexes corresponds to hygienical norms
 - D. Increased colour
 - E. Intensity of a strange smell exceeds admissible level
21. During research of the content of carbon dioxide in hospital wards for adults it was set, that in the ward № 1 its concentration was 0,20 % № 2–0,15 % № 3–0,09 % № 4– 0,3 % № 5–0,25 %. At what chamber the content of carbon dioxide is at the admissible level?
- A. № 1
 - B. № 2
 - C. № 3
 - D. № 4
 - E. № 5
22. In the operating-room of a surgical department of hospital the parameters of lighting microclimate are the following: the angle of the incidence - 27°, the aperture angle - 5°, the daylight factor – 2,0%, the lighting coefficient - 1:7, artificial illumination of the working field by lamps without shade – 6000 lux. Which of the following parameters needs correction?
- A. The lighting coefficient
 - B. The aperture angle
 - C. The daylight factor
 - D. The angle of the incidence
 - E. The artificial illumination of the working field
23. For determination of physiological dose of UV-radiation was applied Gorbachov's biodozimeter. Erythema ultraviolet dose after irradiation was 4 minutes. What is physiological dose of UV-radiation (minutes)?
- A. 0,5-1
 - B. 1-2
 - C. 1,5-3
 - D. 2-4
 - E. 3-6
24. The water with the following indexes is used: the common microbe number 35, index BGCP–1, the number of intestinal helminth–3, the number of the pathogenic intestinal Protozoa–0. Give hygienical estimation to the indexes of epidemic safety of water.
- A. Level of indexes corresponds to hygienical norms
 - B. Increased the common microbe number
 - C. Increased index BGCP
 - D. Increased the number of intestinal helminth

- E. Increased content of the pathogenic intestinal Protozoa
25. At research of a drinking-water sample the increase of content of only nitrates connections is determined. What character of contamination of water does it testify about?
- With oil products
 - With sewage from cattle farms
 - With products of mineral origin
 - With the products of sewage origin
 - With products of vegetable origin
26. The content of iron in the explored sample of water was $0,2 \text{ mg/dm}^3$, fluorine – $1,5 \text{ mg/dm}^3$, general mineralization – 950 mg/dm^3 , chlorides – 250 mg/dm^3 , general hardness – 14 mmol/dm^3 . What method of drinking water conditioning is it necessary to use for its improvement?
- Removing of iron
 - Removing of fluorine
 - Disinfection
 - Desalination
 - Softening
27. Laboratory research of water has been conducted. Results are the following: smell – 2 points, transparency – 30 sm after the Snelenn's font, colour - 20° C , dry remainder – 900 mg/dm^3 , sulfates – 250 mg/dm^3 , chlorides – 250 mg/dm^3 , oxidizing – 4 mg/dm^3 , coli-index – 3, microbe number – 100, fluorine – $1,5 \text{ mg/dm}^3$, nitrates – 10 mg/dm^3 , helminthes eggs – 8 in 25 dm^3 of water. What indexes of water do not respond to the requests of the document "Hygienical requirements to quality of water of the centralized supply?"
- Those concerning parasites
 - Organoleptic
 - Toxicological
 - Microbiological
 - Physicochemical
28. The habitants of a mountain settlement use for their economic and drinkable necessities an underground source which appeared at the cut of aquiferous horizon as a result of falling of relief on the slope of a mountain. How is this source of water-supply named?
- Artesian
 - Brook
 - Downward
 - Upward
 - River
29. During planned prophylactic medical examination of miners the violation of tissue nutrition, angiospasm, decline of all types of skin sensitiveness in distal parts of the hands was determined. What occupational harmfulness could be the reason of such symptoms?
- Noise
 - Electromagnetic radiation
 - Laser radiation
 - Vibration
 - Radioactive radiation
30. At research of drinking-water its smell was estimated at 1 point, taste – 1 point, colour after chromic-cobalt scale – 10° , general hardness 7 mg·ecv/dm^3 , iron $0,7 \text{ mg/dm}^3$. Which from the higher mentioned indexes needs correction?
- Smell
 - Taste
 - Colour
 - General hardness
 - Iron

31. In a settlement, the building of a public well is being projected. At research of different water samples delivered to a laboratory from 5 bored mining holes, it was determined that: in the 1st sample GMN makes 50 KUO/sm³, 2 cists /25 dm³; in the 2nd were found larvae of intestinal helminth – 3 larvae/25 dm³, coliforming microorganisms 4 CFO/dm³; in the 3rd – the activity of β–emitter makes 1,0 Bk/dm³, activity of α–emitter – 0,3 Bk/dm³; in the 4th were found nitrates in the dosage of 80 mg/dm³, lead – 0,01 mg/dm³; in the 5th GMN makes 80 CFO/dm³, coliforming microorganisms – 2 CFO/dm³. From which of these mining holes water is suitable for consumption?
- 1
 - 2
 - 3
 - 4
 - 5
32. For coverage of the daily energetic expenditures which make 3000 kcal, the medical assistant of the first-aid station daily consumes 350 kcal due to albumens, in that number 150 kcal due to the albumens of vegetable origin, 750 kcal due to fats, including 75 kcal due to fats of vegetable origin. What measures must be conducted for correction of feed?
- Decrease of the common amount of fats
 - Increase of the amount of albumens of animal origin
 - Increase of the common amount of fats
 - To multiply the common amount of albumens
 - Increase of the amount of fats of vegetable origin
33. A woman of 60 years old with a normal body mass gets with day's ration 50 g of albumen, 50 g of fat, and 300 g of carbohydrates? What energetic value of ration is due to carbohydrates?
- 1300 kcal
 - 1000 kcal
 - 450 kcal
 - 1200 kcal
 - 500 kcal
34. At the analysis of food ration at an enterprise, where women work, it was set, that the food ration contains the following amounts of mineral matters (mg): Ca–900, P – 1200, Mg–350, Fe–17, Zn–15. Which of these microelements is in deficit in the food ration?
- Ca
 - Fe
 - Zn
 - Mg
 - P
35. The energetic value of a surgeon day's ration makes 3000 kcal at 3-times per day diet. Thus on breakfast he receives 15%, on dinner–45%, on supper-40% from the energetic value of the ration. How must a diet be changed, so it corresponds to the hygienical requirements?
- Decrease of caloric content of supper
 - Increase of the caloric content of dinner
 - Decrease of the caloric content of dinner
 - Distribution of the caloric content equally between mealtimes
 - Decrease the caloric content of breakfast
36. A worker of a factory on paints manufacturing complaints on unpleasant taste in the mouth, spasmodic stomach-aches, constipation, which are not coped with laxatives. Objectively: the skin of face is of pale-greyish colour, there is a red-grey strip on the edge of the gums near foreteeth. At laboratory research the following changes were determined: in the blood – anaemia, reticulocytosis, basophile graininess of red corpuscles, increased content of bilirubine; in urine – content of porfirins is increased. What disease is a worker suffering from?
- Chronic lead poisoning.
 - Chronic poisoning with mercury

- C. Chronic poisoning with benzol
 - D. Chronic poisoning with manganese
 - E. Chronic poisoning with carbon tetrachloride
37. The habitants of a rural settlement noticed the bad boiling of meat and bobs in water, taken from a mine well. What, most probably, has predetermined such a phenomenon?
- A. Increased content of fluorine in water
 - B. Increased content of iron in water
 - C. Increased dense remainder
 - D. Increased hardness of water
 - E. Increased content of nitrates in water
38. For the improvement of quality of water in cleansing buildings it was stood by a natural way in horizontal standing, in which the water continuously moved at a speed of 0,1 m/s during 7 hours. What did water purified itself by the used method from?
- A. Small particles
 - B. Larvae
 - C. Helminths eggs
 - D. Roughly dispersed particles
 - E. Microorganisms
39. At a man of 45 years old, with the height of 178 sm, body weight 80 kg 5 mmol/l of general cholesterol, 3 mmol/l of triglycerides were determined in the blood serum; his arterial blood pressure was 160/90 mm Hg. What food matters need to be limited in the ration of the patient?
- A. Cholesterol
 - B. Lightly assimilated carbohydrates
 - C. Saturated fat acids
 - D. Polyunsaturated fat acids
 - E. Phospholipids
40. In the period of exacerbation of ulcerous illness of the stomach of a patient of gastroenterology department it was recommended to use the ground up foods. What type of feed does this measure belong to?
- A. Rational
 - B. Preventive
 - C. Treatment-preventive
 - D. Dietary
 - E. Treatment
41. A part of the population, which lives in the remote settlement of a mountain district, complains about rapid fatigability, increased sweating, pains in the heart. The increase of the thyroid is marked at these people. Consumption of what products would be advantageous for this contingent of population?
- A. Dairy
 - B. Cereals
 - C. Sea products
 - D. Meat products
 - E. Freshwater fishes
42. At the analysis of daily ration it was set that mealtimes comprise the following indexes: 10% of the daily energetic expenditures are covered during breakfast, 40% during dinner and 50% during supper. How is it necessary to correct the distributing of energy for mealtimes?
- A. Increase of the energetic value of breakfast at the expense of dinner
 - B. Increase of the energetic value of breakfast at the expense of supper
 - C. Decrease of the energetic value of dinner with the increase of energetic value of supper
 - D. Decrease of the energetic value of supper at the expense of dinner
 - E. Increase of the energetic value of dinner at the expense of supper

43. In the air of one of the production apartments of an oncologic centre the content of antitumor medications exceeds their norm in more than 10 times. What class of labour terms is observed in these conditions?
- Optimal
 - Admissible
 - Harmful
 - Dangerous
 - Extreme
44. A woman of 60 years old with the normal body weight gets with the day's ration 50 g of proteins, 50 g of fat, 300 g of carbohydrates. In her ration the corn-bobs prevail, there is also enough quantity of vegetables, but the amount of milk, diary products is limited. What disease can develop with such a ration?
- Osteoporosis
 - Atherosclerosis
 - Obesity
 - Hypertensive illness
 - Urine-stone illness
45. A man bought a product at a market under the guise of soluble coffee. During conducting hygienic examination of this product it was set, that content of coffee in this product was 40%, other consisted of barley. What is the quality of such a product?
- Decreased quality
 - Low quality
 - Conditionally suitable
 - Surrogate
 - False product
46. During chemical analysis of wheat bread the alkaloids of horns were determined. What disease can bring about consumption of such bread?
- Aflatoxicosis
 - Aleukia
 - Leucopenia
 - Ergotism
 - Fuzariotoxicosis
47. A man of 45-year-old complaints dryness in the mouth, weakness, diplopia in the eyes, impossibility to read, constipation, $t -36,7$ C. It is known from anamnesis, that 2 days ago he ate salads, domestic sausages, pate, borsch, stuffed cabbages with meat, mushrooms of the domestic canning, cake with cream. What food poisoning takes place in this case?
- Salmonellosis
 - Food intoxication
 - Poisoning with mushrooms
 - Sausage-poisoning
 - Staphylococcus toxicosis
48. In a hospital after breakfast, that consisted of milk, potato, butter, fish can foods and bread, 8 children were hospitalized with the signs of staphylococcus intoxication. Which of the above products, most probably, caused development of this disease?
- Milk
 - Potato
 - Oil
 - Fish can foods
 - Bread
49. At consumption of a plenty of the strawberries purchased at a market, at a child of 3 years old appeared nausea, vomiting, diarrhoea, stuffiness, cyanosis, hives, and decline of blood pressure, the content of

methaemoglobin in the blood – 7%. What chemical matter, most probably, could cause poisoning of the child?

- A. Saltpetre
- B. Potassium fertilizers
- C. Phosphor organic pesticides
- D. Piretroid pesticides
- E. Carbonate pesticides

50. The 10 years old boy's daily feed ration contains the following elements: vitamin B₁–1.0mg, vitamin B₂–1.2mg, vitamin B₆–1.5mg, vitamin B₁₂–1.4mg, vitamin C–20mg. The boy complains about general weakness, rapid fatigueability, crabbiness, bleeding of the gums, petechiae on the legs. What type of hypovitaminosis has place at the boy?

- A. C
- B. B₁
- C. B₂
- D. B₆
- E. B₁₂

51. During prophylactic medical examination of a worker of a glass-casting workshop the strengthening of a pulmonary image, extended roots of the lungs, compression in the form of separate knots were determined on the radiograph of thorax organs. During the inspection of terms labours it was set, that the content of dust with 80% of SiO₂ makes in the air 10 mg/m³. The initial symptoms of what disease have possibly arisen up at the worker?

- A. Silicatosis
- B. Silicosis
- C. Amylosis
- D. Anthracosis
- E. Metalloconiosis

52. At a girl of 8 years old, the individual index of growth after the method of sigmal deviations differs from the middle one by +0.68, circumference of breasts –1.2, the body weight –1.6. What is the degree of physical development of this child?

- A. Lower of middle
- B. Low
- C. Higher of middle
- D. High
- E. Middle

53. During complex estimation of the state of health of 0–6 and 7–14 years old children and of 15-17 years old teenagers living in the industrially developed settlement, it was set, that illnesses of the organs of breathing, digestion, skin and hypodermic cellulose, endocrine and nervous systems prevail among the inspected age groups of children. Which of the above disorders takes II range in distributing diseases among the inspected age groups of children and teenagers (pursuant to conformities of the grade of distributing diseases in different age groups)?

- A. Diseases the breathing organs
- B. Diseases the digestion organs
- C. Diseases of the skin and hypodermic cellulose
- D. Diseases of the endocrine system
- E. Diseases of the nervous system

54. During study of feed of research female workers, it was set that their food ration contained 1.3 mg of thiamine, 0.8 mg of riboflavin, 16 mg of niacin, and 80 mg of ascorbic acid. Energetic value of the ration is 2000 kcal. Which of the above indexes requires correction?

- A. Content of thiamine
- B. Content of ascorbic acid
- C. Content of niacin
- D. Content of riboflavin

- E. Energetic value
55. During the examination of children of different age groups with the purpose of iodine-deficiency diseases determination by the method of ioduria it was set, that the median of concentration of iodine in urine of the inspected children varied on the average from 60 to 90 mcg/l. What is the level of iodine receipt in the organism of children in this case?
- A. Increased
 - B. Normal
 - C. Light deficit
 - D. Middle deficit
 - E. Heavy deficit
56. Parents purchased to a first-class boy a school desk with a folding lid, inclination of which makes 150, the height of seating at the desk corresponds to the length of the child's shin with additional height for low heels, the depth of seating makes 1/3 of the thigh lengths, the height of the desks corresponds to a distance on a vertical line from seating to the elbow of the freely dropped hand plus 5 cm, the distance of the back exceeds the frontoposterior size of the child thorax by the width of his palm. What parameter of the child's school desk needs correction?
- A. Angle of lid inclination
 - B. Height of seat
 - C. Depth of seat
 - D. Height of the desks
 - E. Distance of back
57. A boy of 8 years old has the following indexes: body length 129 cm, body weight 29.5 kg (+0,3 σ_R), circumference of thorax 62.9 cm (+0,2 σ_R). Estimate physical development of this boy.
- A. Sharply disharmonious
 - B. Disharmonious
 - C. Harmonious
 - D. Proportional
 - E. Disproportional
58. During hygienical estimation of production workshop on the work with metal at general school, it was set, that it was equipped with 14 working machine-tools located in 2 rows. Distance between the rows and from an internal wall to the machine-tools makes 1.0 m. Light onto working place falls from the left. What failing takes place in this case?
- A. The number of machine-tools in the workshop
 - B. Allocation of machine-tools in 2 rows
 - C. Left-sided illumination of workplaces
 - D. Distance between rows
 - E. Distance from the internal wall to the machine-tools
59. Research on the accordance of a school desk to growth of pupils, who write with a right hand, revealed increase of height of the desks. What pathology can develop at students in this case?
- A. Lordosis
 - B. Violation of blood circulation
 - C. Kyphosis
 - D. Right-sided scoliosis
 - E. Left-sided scoliosis
60. There are 60% of tables of group of B in a child's establishment. Of what length should children be to use this furniture?
- A. up 70 cm
 - B. up 80 cm
 - C. 80–90 cm
 - D. 100–115 cm
 - E. 115–130 cm

61. In the class room of a transversal configuration for the pupils of the 2nd class school desks are located in 4 rows so that the distance between a board with length of 4 m and the 1st desk makes 1.5 m. Development of what pathology can be provoked?
- Hypertonia
 - Scoliosis
 - Anaemia
 - Myopia
 - Neurasthenia
62. In a sharp experiment it was set, that LD50 of dimethylphtalat for the white rats males made 8275 mg/kg of the body weight, for females - 8714 mg/kg, white mice 6262 mg/kg, murchaks - 1194 mg/kg, rabbits - 4200 mg/kg. What laboratory animals are the least sensible to dimetylphthalat?
- White rats females
 - White rats males
 - White mice
 - haks
 - Rabbits
63. A workwoman of an accumulator workshop of a car repair service enterprise levitates from a floor for the first half of work 10 accumulators, and for the second – 7, the mass is 15 kg each. Define the class of labour conditions after the indexes of weight of a labour process.
- Optimal
 - Admissible
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64. A builder executed a work outdoors on the height of 8-floor building in the conditions of cloudless sun, calm weather, increased temperature (30°C) and relative humidity - 70 %. At the end of working day he felt head pain, muscular weakness, dizziness, violation of co-ordination of motions. Objectively: pulse and breathing frequency is speeded-up, temperature of body is 37,2°C. About what disease can one most probably think with such a clinical picture?
- Height disease
 - Sun blow
 - Heat blow
 - Convulsive illness
 - Mountain illness
65. Whom the following utterance belongs to: „Not every doctor, of course, can be specialist on hygiene, but each except for the known supply of knowledge from this subject can and must master the hygienical way of thinking.”
- Dobroslavin O.P.
 - Erisman F.V.
 - Petencofer M.
 - Marzeev O.M.
 - Yacobiyy A.A.
66. In the operating-room of a surgical department of a first-aid hospital the parameters of light microclimate are the following: the angle of the light falling - 27°, the angle of the light opening - 4°, the coefficient of the natural illumination – 2,0%, the light coefficient 1:6, the luminosity of the working field by shadeless lamps – 6000 lc. Which of the following parameters needs correction?
- The light coefficient
 - The angle of opening
 - The coefficient of natural illumination
 - The angle of the light falling
 - The luminosity of the working field

67. For determination of physiological dose of UV-radiation the Horbachov's biodozimeter was applied. Erythemous dose after a window № 3 in 11 hours after irradiation was 4 minutes. What is physiological dose UV-radiation, minutes?
- A. 0,5-1
 - B. 1-2
 - C. 1,5-3
 - D. 2-4
 - E. 3-6
68. In determination of separate parameters of microclimate in a lecture audience it was set, that the temperature of the air was 20°C, difference between the temperature of the air and temperature of walls – 2,5°C, overfalls of temperature on a horizontal line - 2,5°C, on a vertical line - 2,0°C, relative humidity – 70 %. Which of the following indexes of microclimate have been violated in relation to the hygienical requirements?
- A. Temperature of the air
 - B. Difference between the temperature of the air and the temperature of walls
 - C. Overfalls of temperatures on a horizontal line
 - D. Overfalls of temperatures on a vertical line
 - E. Relative humidity
69. Work of a machinist at one metallurgical factory requires the concentrated supervision after a technological process during 70% of his working time. For one hour it is necessary to process 175 informative signals. In emergency situations it is necessary to make quick decisions in the terms of large deficit of time, next to danger and high responsibility. Which of the following indexes of labour process is not characteristic of the described type of labour?
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 - D. Nervous-emotional load
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70. The thermal comfort of workers of surgical department depends mainly on humidity and temperature of the air in an apartment. The combination of which of these factors is responsible for violation of heat emission and overheat of the organism?
- A. High temperature and low humidity
 - B. Optimal temperature and high humidity
 - C. High temperature and high humidity
 - D. Low temperature and high humidity
 - E. Low temperature and optimal humidity
71. At the laboratory research of a sample of water, the presence of chlorine organic substances was determined, in particular, of chloroform. What would be expedient to use for the removal of these hazardous substances?
- A. Electrodialyze of the water
 - B. Hyperfiltration
 - C. Aeration of the water
 - D. Respiration
 - E. Filtration
72. At the inspection of servicemen during implementation of an educational task at one of submarine boats, they complained on the head pain, tachycardia, and decline of work capacity. During laboratory examination acidosis and increased content of carbaemoglobin was determined. What level of CO₂ (%) in the air could result in these clinical signs?
- A. 0,1-0,2
 - B. 1-2
 - C. 4-5
 - D. 8-10

73. A surgeon executes an operation duration of which makes 3 hours. The working pose is standing in the inclined position up to 30° that takes 60% of total time. Common time of concentration makes up to 90%. During the operation the surgeon must make decisions of the high responsibility concerning patient's life in the conditions of deficit of time. Which of the following indexes characterize hardness of the labour process?
- Time of concentration
 - Working pose
 - Deficit of time
 - Rate of responsibility
 - Duration of the operation
74. The microclimate of an apartment is of the following parameters: temperature of the air – 40°C; relative humidity – 100%; rate of movement of the air – 0.1 m/s; radiation temperature – 80°C. Denote the most credible pathological state of the organism in such conditions:
- General hyperthermia (heat-shock)
 - Decreased work capacity
 - Violation in the system of blood circulation
 - Violation of the respiratory system
 - Local hyperthermia
75. A surgeon of an orthopaedic department during operation, that lasts for 4 hours, leans over an operating field more than 300 times with the angle of slope more than 30°, executes work in the conditions of deficit of time and with the large emotional loading. What class is it possible to take the terms of his labour to?
- Admissible
 - Harmful of the 1st degree
 - Harmful of the 2nd degree
 - Harmful of the 3rd degree
 - Optimal
76. During research of the content of carbon dioxide in hospital chambers for adults it was set, that in a chamber № 1 its concentration was 0,20 % № 2–0,15 % № 3–0,09 % № 4– 0,3 % № 5–0,25 %. At what chamber the content of carbon dioxide is at the admissible level?
- № 1
 - № 2
 - № 3
 - № 4
 - № 5
77. For consumption is used the water with smell of 0 marks, colour– 20°, transparency – 32 sm, turbidness – 0,7 mg/dm³. Give hygienical estimation to organoleptic properties of the water.
- Increased turbidness
 - Decreased transparency
 - The level of all indexes corresponds to hygienical norms
 - Increased colour
 - Intensity of a strange smell exceeds admissible level
78. The habitants of a mountain settlement use for their economic and drinkable necessities an underground source which appeared at the cut of aquiferous horizon as a result of falling of relief on the slope of a mountain. How is this source of water-supply named?
- Artesian
 - Brook
 - Downward
 - Upward
 - River

79. The water with the following indexes is used: the common microbe number 35, index BGCP–1, the number of intestinal helminth–3, the number of the pathogenic intestinal Protozoa–0. Give hygienical estimation to the indexes of epidemic safety of water.
- Level of indexes corresponds to hygienical norms
 - Increased the common microbe number
 - Increased index BGCP
 - Increased the number of intestinal helminth
 - Increased content of the pathogenic intestinal Protozoa
80. In the air of one of production apartments of a pharmaceutical enterprise the content of antitumor medications exceeds their admissible level more than 10 times. What class of labour is considered in such conditions?
- Possible
 - Harmful of the 1st degree
 - Harmful of the 2nd degree
 - Harmful of the 3rd degree
 - Harmful of the 4th degree
81. The results of examination of water from a mine well showed that its transparency makes 35 sm, colour – 40°, taste – 2 points, smell – 3 points, coli-index – 8. Which of the given indexes does not correspond to the hygienical requirements?
- Transparency
 - Colour
 - Taste
 - Smell
 - Coli-index
82. At research of a drinking-water sample the increase of content of only nitrates connections is determined. What character of contamination of water does it testify about?
- With oil products
 - With sewage from cattle farms
 - With products of mineral origin
 - With the products of sewage origin
 - With products of vegetable origin
83. In the explored sample of water content of iron was at the level of 0,2 mg/dm³, fluorine – 1,5 mg/dm³, general mineralization– 950 mg/dm³, chlorides – 500 mg/dm³, general hardness– 6,0 mg·ecv/dm³. What method of conditioning is it necessary to use for its improvement?
- Removing of iron
 - Removing of fluorine
 - Disinfection
 - Desalination
 - Making water softer
84. There is a mine well on the territory of a small holding situated on the distance of 20 m from a dwelling-house, 10 m from a toilet, 15 meters – from a neighbour house. What the least distance in obedience to sanitary norms must be between a well and a source of possible contamination of water?
- 30 m
 - 25 m
 - 20 m
 - 15 m
 - 10 m
85. Laboratory research of water has been conducted. Results are the following: smell – 2 points, transparency – 30 sm after the Snelenn's font, colour - 20° C, dry remainder – 900 mg/dm³, sulfates – 250 mg/dm³, chlorides – 250 mg/dm³, oxidizing – 4 mg/dm³, coli-index – 3, microbe number – 100, fluorine – 1,5 mg/dm³, nitrates – 10 mg/dm³, helminthes eggs – 8 in 25 dm³ of water. What indexes of

water do not respond to the requests of the document “Hygienical requirements to quality of water of the centralized supply?”

- A. Those concerning parasites
- B. Organoleptic
- C. Toxicological
- D. Microbiological
- E. Physicochemical

86. At research of drinking-water its smell was estimated at 1 point, taste – 1 point, colour after chromic-cobalt scale – 10°, general hardness 7 mg·ecv/dm³, iron 0,7 mg/dm³. Which from the higher mentioned indexes needs correction?

- A. Smell
- B. Taste
- C. Colour
- D. General hardness
- E. Iron

87. During planned prophylactic medical examination of miners the violation of tissue nutrition, angiospasm, decline of all types of skin sensitiveness in distal parts of the hands was determined. What professional harmfulness could be the reason of such symptoms?

- A. Noise
- B. Electromagnetic radiation
- C. Laser radiation
- D. Vibration
- E. Radioactive radiation

88. In a settlement, the building of a public well is being projected. At research of different water samples delivered to a laboratory from 5 bored mining holes, it was determined that: in the 1st sample GMN makes 50 KUO/sm³, 2 cists /25 dm³; in the 2nd were found larvae of intestinal helminth – 3 larvae/25 dm³, coliforming microorganisms 4 CFO/dm³; in the 3rd – the activity of β-emitter makes 1,0 Bk/dm³, activity of α-emitter – 0,3 Bk/dm³; in the 4th were found nitrates in the dosage of 80 mg/dm³, lead – 0,01 mg/dm³; in the 5th GMN makes 80 CFO/dm³, coliforming microorganisms – 2 CFO/dm³. From which of these mining holes water is suitable for consumption?

- A. 1
- B. 2
- C. 3
- D. 4
- E. 5

89. At the analysis of food ration at an enterprise, where women work, it was set, that the food ration contains the following amounts of mineral matters (mg): Ca–900, P – 1200, Mg–350, Fe–17, Zn–15. Which of these microelements is in deficit in the food ration?

- A. Ca
- B. Fe
- C. Zn
- D. Mg
- E. P

90. The energetic value of a surgeon day's ration makes 3000 kcal at 3-times per day diet. Thus on breakfast he receives 15%, on dinner–45%, on supper–40% from the energetic value of the ration. How must a diet be changed, so it corresponds to the hygienical requirements?

- A. Decrease of caloric content of supper
- B. Increase of the caloric content of dinner
- C. Decrease of the caloric content of dinner
- D. Distribution of the caloric content equally between mealtimes
- E. Decrease the caloric content of breakfast

91. A worker of a factory on paints manufacturing complains on unpleasant taste in the mouth, spasmodic stomach-aches, constipation, which are not coped with laxatives. Objectively: the skin of face is of pale-greyish colour, there is a red-grey strip on the edge of the gums near foreteeth. At laboratory research the following changes were determined: in the blood – anaemia, reticulocytosis, basophile graininess of red corpuscles, increased content of bilirubine; in urine – content of porfirins is increased. What disease is a worker suffering from?
- Chronic lead poisoning.
 - Chronic poisoning with mercury
 - Chronic poisoning with benzol
 - Chronic poisoning with manganese
 - Chronic poisoning with carbon tetrachloride
92. The habitants of a rural settlement noticed the bad boiling of meat and bobs in water, taken from a mine well. What, most probably, has predetermined such a phenomenon?
- Increased content of fluorine in water
 - Increased content of iron in water
 - Increased dense remainder
 - Increased hardness of water
 - Increased content of nitrates in water
93. For the improvement of quality of water in cleansing buildings it was stood by a natural way in horizontal standing, in which the water continuously moved at a speed of 0,1 m/s during 7 hours. What did water purified itself by the used method from?
- Small particles
 - Larvae
 - Helminths eggs
 - Roughly dispersed particles
 - Microorganisms
94. At a man of 45 years old, with the height of 178 sm, body weight 80 kg 5 mmol/l of general cholesterol, 3 mmol/l of triglycerides were determined in the blood serum; his arterial blood pressure was 160/90 mm Hg. What food matters need to be limited in the ration of the patient?
- Cholesterol
 - Lightly assimilated carbohydrates
 - Saturated fat acids
 - Polyunsaturated fat acids
 - Phospholipids
95. For coverage of the daily energetic expenditures which make 3000 kcal, the medical assistant of the first-aid station daily consumes 350 kcal due to albumens, in that number 150 kcal due to the albumens of vegetable origin, 750 kcal due to fats, including 75 kcal due to fats of vegetable origin. What measures must be conducted for correction of feed?
- Decrease of the common amount of fats
 - Increase of the amount of albumens of animal origin
 - Increase of the common amount of fats
 - To multiply the common amount of albumens
 - Increase of the amount of fats of vegetable origin
96. A woman of 60 years old with a normal body mass gets with day's ration 50 g of albumen, 50 g of fat, and 300 g of carbohydrates? What energetic value of ration is due to carbohydrates?
- 1300 kcal
 - 1000 kcal
 - 450 kcal
 - 1200 kcal
 - 500 kcal

97. At the analysis of daily ration it was set that mealtimes comprise the following indexes: 10% of the daily energetic expenditures are covered during breakfast, 40% during dinner and 50% during supper. How is it necessary to correct the distributing of energy for mealtimes?
- A. Increase of the energetic value of breakfast at the expense of dinner
 - B. Increase of the energetic value of breakfast at the expense of supper
 - C. Decrease of the energetic value of dinner with the increase of energetic value of supper
 - D. Decrease of the energetic value of supper at the expense of dinner
 - E. Increase of the energetic value of dinner at the expense of supper
98. In the period of exacerbation of ulcerous illness of the stomach of a patient of gastroenterology department it was recommended to use the ground up foods. What type of feed does this measure belong to?
- A. Rational
 - B. Preventive
 - C. Treatment-preventive
 - D. Dietary
 - E. Treatment
99. A part of the population, which lives in the remote settlement of a mountain district, complains about rapid fatigueability, increased sweating, pains in the heart. The increase of the thyroid is marked at these people. Consumption of what products would be advantageous for this contingent of population?
- A. Dairy
 - B. Cereals
 - C. Sea products
 - D. Meat products
 - E. Freshwater fishes
100. In the air of one of the production apartments of an oncologic centre the content of antitumor medications exceeds their norm in more than 10 times. What class of labour terms is observed in these conditions?
- A. Admissible
 - B. Harmful of the 1st degree
 - C. Harmful of the 2nd degree
 - D. Harmful of the 3rd degree
 - E. Harmful of the 4th degree
101. A man bought a product at a market under the guise of soluble coffee. During conducting hygienical examination of this product it was set, that content of coffee in this product made only 40%, other consisted of barley. What is the quality of such a product?
- A. Decreased quality
 - B. Low quality
 - C. Conditionally suitable
 - D. Surrogate
 - E. False product
102. During chemical analysis of wheat bread the alkaloids of horns were determined. What disease can bring about consumption of such bread?
- A. Aflatoxicosis
 - B. Aleukia
 - C. Leucopenia
 - D. Ergotism
 - E. Fuzariotoxicosis
103. A woman of 60 years old with the normal body weight gets with the day's ration 50 g of albumen, 50 g of fat, 300 g of carbohydrates. In her ration the corn-bobs prevail, there is also enough quantity of vegetables, but the amount of milk, dairy products is limited. What disease can develop with such a ration?
- A. Osteoporosis

- B. Atherosclerosis
- C. Obesity
- D. Hypertensive illness
- E. Urine-stone illness

104. A man of 45 years old complains about dryness in the mouth, weakness, diplopia in the eyes, impossibility to read, constipation, T=36,7°C. It is known from anamnesis, that 2 days ago he ate salads, domestic sausages, pate, borsch, stuffed cabbages with meat, mushrooms of the domestic canning, cake with cream. What food poisoning takes place in this case?

- A. Salmonellosis
- B. Food intoxication
- C. Poisoning with mushrooms
- D. Sausage-poisoning
- E. Staphylococcus toxicosis

105. In a hospital after breakfast, that consisted of milk, potato, butter, fish can foods and bread, 8 children were hospitalized with the signs of staphylococcus intoxication. Which of the above products, most probably, caused development of this disease?

- A. Milk
- B. Potato
- C. Oil
- D. Fish can foods
- E. Bread

106. During prophylactic medical examination of a worker of a glass-casting workshop the strengthening of a pulmonary image, extended roots of the lungs, compression in the form of separate knots were determined on the radiograph of thorax organs. During the inspection of terms labours it was set, that the content of dust with 80% of SiO₂ makes in the air 10 mg/m³. The initial symptoms of what disease have possibly arisen up at the worker?

- A. Silicatosis
- B. Silicosis
- C. Amylosis
- D. Anthracosis
- E. Metalloconiosis

107. At consumption of a plenty of the strawberries purchased at a market, at a child of 3 years old appeared nausea, vomiting, diarrhoea, stuffiness, cyanosis, hives, and decline of blood pressure, the content of methaemoglobin in the blood – 7%. What chemical matter, most probably, could cause poisoning of the child?

- A. Saltpetre
- B. Potassium fertilizers
- C. Phosphor organic pesticides
- D. Piretroid pesticides
- E. Carbonate pesticides

108. During complex estimation of the state of health of 0–6 and 7–14 years old children and of 15–17 years old teenagers living in the industrially developed settlement, it was set, that illnesses of the organs of breathing, digestion, skin and hypodermic cellulose, endocrine and nervous systems prevail among the inspected age groups of children. Which of the above disorders takes II range in distributing diseases among the inspected age groups of children and teenagers (pursuant to conformities of the grade of distributing diseases in different age groups)?

- A. Diseases the breathing organs
- B. Diseases the digestion organs
- C. Diseases of the skin and hypodermic cellulose
- D. Diseases of the endocrine system
- E. Diseases of the nervous system

109. During study of feed of research female workers, it was set that their food ration contained 1.3 mg of thiamine, 0.8 mg of riboflavin, 16 mg of niacin, and 80 mg of ascorbic acid. Energetic value of the ration is 2000 kcal. Which of the above indexes requires correction?
- Content of thiamine
 - Content of ascorbic acid
 - Content of niacin
 - Content of riboflavin
 - Energetic value
110. During the examination of children of different age groups with the purpose of iodine-deficiency diseases determination by the method of ioduria it was set, that the median of concentration of iodine in urine of the inspected children varied on the average from 60 to 90 mcg/l. What is the level of iodine receipt in the organism of children in this case?
- Increased
 - Normal
 - Light deficit
 - Middle deficit
 - Heavy deficit
111. The 10 years old boy's daily feed ration contains the following elements: vitamin B₁–1.0mg, vitamin B₂–1.2mg, vitamin B₆–1.5mg, vitamin B₁₂–1.4mg, vitamin C–20mg. The boy complains about general weakness, rapid fatigueability, crabbiness, bleeding of the gums, petechiae on the legs. What type of hypovitaminosis has place at the boy?
- C
 - B₁
 - B₂
 - B₆
 - B₁₂
112. At a girl of 8 years old, the individual index of growth after the method of sigmal deviations differs from the middle one by +0.68, circumference of breasts –1.2, the body weight –1.6. What is the degree of physical development of this child?
- Lower of middle
 - Low
 - Higher of middle
 - High
 - Middle
113. A boy of 8 years old has the following indexes: body length 129 cm, body weight 29.5 kg (+0,3σ_R), circumference of thorax 62.9 cm (+0,2σ_R). Estimate physical development of this boy.
- Sharply disharmonious
 - Disharmonious
 - Harmonious
 - Proportional
 - Disproportional
114. During hygienical estimation of production workshop on the work with metal at general school, it was set, that it was equipped with 14 working machine-tools located in 2 rows. Distance between the rows and from an internal wall to the machine-tools makes 1.0 m. Light onto working place falls from the left. What failing takes place in this case?
- The number of machine-tools in the workshop
 - Allocation of machine-tools in 2 rows
 - Left-sided illumination of workplaces
 - Distance between rows
 - Distance from the internal wall to the machine-tools
115. Research on the accordance of a school desk to growth of pupils, who write with a right hand, revealed increase of height of the desks. What pathology can develop at students in this case?

- A. Lordosis
 - B. Violation of blood circulation
 - C. Kyphosis
 - D. Right-sided scoliosis
 - E. Left-sided scoliosis
116. There are 60% of tables of group of B in a child's establishment. Of what length should children be to use this furniture?
- A. By 70 cm
 - B. By 80 cm
 - C. 80–90 cm
 - D. 100–115 cm
 - E. 115–130 cm
117. Parents purchased to a first-class boy a school desk with a folding lid, inclination of which makes 150, the height of seating at the desk corresponds to the length of the child's shin with additional height for low heels, the depth of seating makes 1/3 of the thigh lengths, the height of the desks corresponds to a distance on a vertical line from seating to the elbow of the freely dropped hand plus 5 cm, the distance of the back exceeds the frontoposterior size of the child thorax by the width of his palm. What parameter of the child's school desk needs correction?
- A. Angle of lid inclination
 - B. Height of seat
 - C. Depth of seat
 - D. Height of the desks
 - E. Distance of back
118. A boy of 13 years old suffers from bronchoectatic illness in the stage of subcompensation, every year he has pneumonia. What group of health can the boy be taken to?
- A. The 5th group of health
 - B. The 4th group of health
 - C. The 3rd group of health
 - D. The 2nd group of health
 - E. The 1st group of health
119. For estimation of the degree of school maturity of 6-years-old children the diagnostic test after Kern-Irasek was applied, pursuant to which the total assessment of the accomplishment of task made 3–4 points. What is the degree of school readiness at the inspected children?
- A. High;
 - B. Middle;
 - C. Low;
 - D. They are not ready after the level of physical development;
 - E. They are ready after the indexes of physical development.
120. In the class room of a transversal configuration for the pupils of the 2nd class school desks are located in 4 rows so that the distance between a board with length of 4 m and the 1st desk makes 1.5 m. Development of what pathology can be provoked?
- A. Hypertonia
 - B. Scoliosis
 - C. Anaemia
 - D. Myopia
 - E. Neurasthenia
121. In a sharp experiment it was set, that LD50 of dimethylphtalat for the white rats males made 8275 mg/kg of the body weight, for females - 8714 mg/kg, white mice 6262 mg/kg, murchaks - 1194 mg/kg, rabbits - 4200 mg/kg. What laboratory animals are the least sensible to dimetylphthalat?
- A. White rats females
 - B. White rats males
 - C. White mice

- D. Murchaks
- E. Rabbits

122. Research on the accordance of a school desk to growth of pupils, who write with a right hand, revealed increase of height of the desks. What pathology can develop at students in this case?
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123. There are 60% of tables of group of B in a child's establishment. Of what length should children be to use this furniture?
- A. By 70 cm
 - B. By 80 cm
 - C. 80–90 cm
 - D. 100–115 cm
 - E. 115–130 cm
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- A. Possible
 - B. Harmful of the 1st degree
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127. The results of examination of water from a mine well showed that its transparency makes 35 sm, colour – 40°, taste – 2 points, smell – 3 points, coli-index – 8. Which of the given indexes does not correspond to the hygienical requirements?
- A. Transparency
 - B. Colour
 - C. Taste
 - D. Smell
 - E. Coli-index

128. The thermal comfort of workers of surgical department depends mainly on humidity and temperature of the air in an apartment. The combination of which of these factors is responsible for violation of heat emission and overheat of the organism?
- A. High temperature and low humidity
 - B. Optimal temperature and high humidity
 - C. High temperature and high humidity
 - D. Low temperature and high humidity
 - E. Low temperature and optimal humidity
129. At the laboratory research of a sample of water, the presence of chlorine organic substances was determined, in particular, of chloroform. What would be expedient to use for the removal of these hazardous substances?
- A. Electrodialyze of the water
 - B. Hyperfiltration
 - C. Aeration of the water
 - D. Respiration
 - E. Filtration
130. The initiator of the first meeting of the Medical commission in Lviv, the propagandist of hygienical knowledge in Lviv was:
- A. O. Konys'ky
 - B. I. Horbachevsky
 - C. E. Ozarkevych
 - D. I. Verchradsky
 - E. M. Panchyshyn
131. A builder executed a work outdoors on the height of 8-floor building in the conditions of cloudless sun, calm weather, increased temperature (30°C) and relative humidity - 70 %. At the end of working day he felt head pain, muscular weakness, dizziness, violation of co-ordination of motions. Objectively: pulse and breathing frequency is speeded-up, temperature of body is $37,2^{\circ}\text{C}$. About what disease can one most probably think with such a clinical picture?
- A. Height disease
 - B. Sun blow
 - C. Heat blow
 - D. Convulsive illness
 - E. Mountain illness
132. A workwoman of an accumulator workshop of a car repair service enterprise levitates from a floor for the first half of work 10 accumulators, and for the second – 7, the mass is 15 kg each. Define the class of labour conditions after the indexes of weight of a labour process.
- A. Optimal
 - B. Admissible
 - C. Harmful
 - D. Dangerous
 - E. Extreme
- 133.
134. In the operating-room of a surgical department of a first-aid hospital the parameters of light microclimate are the following: the angle of the light falling - 27° , the angle of the light opening - 4° , the coefficient of the natural illumination – 2,0%, the light coefficient 1:6, the luminosity of the working field by shadeless lamps – 6000 lc. Which of the following parameters needs correction?
- A. The light coefficient
 - B. The angle of opening
 - C. The coefficient of natural illumination
 - D. The angle of the light falling
 - E. The luminosity of the working field

135. For determination of physiological dose of UV-radiation the Horbachov's biodozimeter was applied. Erythemous dose after a window № 3 in 11 hours after irradiation was 4 minutes. What is physiological dose UV-radiation, minutes?
- 0,5-1
 - 1-2
 - 1,5-3
 - 2-4
 - 3-6
136. The water with the following indexes is used: the common microbe number 35, index BGCP-1, the number of intestinal helminth-3, the number of the pathogenic intestinal Protozoa-0. Give hygienical estimation to the indexes of epidemic safety of water.
- Level of indexes corresponds to hygienical norms
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- 30 m
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 - 20 m
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 - 10 m
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 - Removing of fluorine
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141. The habitants of a mountain settlement use for their economic and drinkable necessities an underground source which appeared at the cut of aquiferous horizon as a result of falling of relief on the slope of a mountain. How is this source of water-supply named?
- Artesian
 - Brook
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 - Taste
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 - General hardness
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- 1
 - 2
 - 3
 - 4
 - 5
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 - Increase of the amount of albumens of animal origin
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- Decrease of caloric content of supper
 - Increase of the caloric content of dinner
 - Decrease of the caloric content of dinner
 - Distribution of the caloric content equally between mealtimes
 - Decrease the caloric content of breakfast
149. A worker of a factory on paints manufacturing complains on unpleasant taste in the mouth, spasmodic stomach-aches, constipation, which are not coped with laxatives. Objectively: the skin of face is of pale-greyish colour, there is a red-grey strip on the edge of the gums near foreteeth. At laboratory research the following changes were determined: in the blood – anaemia, reticulocytosis, basophile graininess of red corpuscles, increased content of bilirubine; in urine – content of porfirins is increased. What disease is a worker suffering from?
- Chronic lead poisoning.
 - Chronic poisoning with mercury
 - Chronic poisoning with benzol
 - Chronic poisoning with manganese
 - Chronic poisoning with carbon tetrachloride
150. The habitants of a rural settlement noticed the bad boiling of meat and bobs in water, taken from a mine well. What, most probably, has predetermined such a phenomenon?
- Increased content of fluorine in water
 - Increased content of iron in water
 - Increased dense remainder
 - Increased hardness of water
 - Increased content of nitrates in water
151. For the improvement of quality of water in cleansing buildings it was stood by a natural way in horizontal standing, in which the water continuously moved at a speed of 0,1 m/s during 7 hours. What did water purified itself by the used method from?
- Small particles
 - Larvae
 - Helminths eggs
 - Roughly dispersed particles
 - Microorganisms
152. At a man of 45 years old, with the height of 178 sm, body weight 80 kg 5 mmol/l of general cholesterol, 3 mmol/l of triglycerides were determined in the blood serum; his arterial blood pressure was 160/90 mm Hg. What food matters need to be limited in the ration of the patient?
- Cholesterol
 - Lightly assimilated carbohydrates
 - Saturated fat acids
 - Polyunsaturated fat acids
 - Phospholipids

153. In the period of exacerbation of ulcerous illness of the stomach of a patient of gastroenterology department it was recommended to use the ground up foods. What type of feed does this measure belong to?
- A. Rational
 - B. Preventive
 - C. Treatment-preventive
 - D. Dietary
 - E. Treatment
154. A part of the population, which lives in the remote settlement of a mountain district, complains about rapid fatigueability, increased sweating, pains in the heart. The increase of the thyroid is marked at these people. Consumption of what products would be advantageous for this contingent of population?
- A. Dairy
 - B. Cereals
 - C. Sea products
 - D. Meat products
 - E. Freshwater fishes
155. At the analysis of daily ration it was set that mealtimes comprise the following indexes: 10% of the daily energetic expenditures are covered during breakfast, 40% during dinner and 50% during supper. How is it necessary to correct the distributing of energy for mealtimes?
- A. Increase of the energetic value of breakfast at the expense of dinner
 - B. Increase of the energetic value of breakfast at the expense of supper
 - C. Decrease of the energetic value of dinner with the increase of energetic value of supper
 - D. Decrease of the energetic value of supper at the expense of dinner
 - E. Increase of the energetic value of dinner at the expense of supper
156. In the air of one of the production apartments of an oncologic centre the content of antitumor medications exceeds their norm in more than 10 times. What class of labour terms is observed in these conditions?
- A. Admissible
 - B. Harmful of the 1st degree
 - C. Harmful of the 2nd degree
 - D. Harmful of the 3rd degree
 - E. Harmful of the 4th degree
157. A woman of 60 years old with the normal body weight gets with the day's ration 50 g of albumen, 50 g of fat, 300 g of carbohydrates. In her ration the corn-bobs prevail, there is also enough quantity of vegetables, but the amount of milk, dairy products is limited. What disease can develop with such a ration?
- A. Osteoporosis
 - B. Atherosclerosis
 - C. Obesity
 - D. Hypertensive illness
 - E. Urine-stone illness
158. A man bought a product at a market under the guise of soluble coffee. During conducting hygienical examination of this product it was set, that content of coffee in this product made only 40%, other consisted of barley. What is the quality of such a product?
- A. Decreased quality
 - B. Low quality
 - C. Conditionally suitable
 - D. Surrogate
 - E. False product
159. During chemical analysis of wheat bread the alkaloids of horns were determined. What disease can bring about consumption of such bread?
- A. Aflatoxicosis

- B. Aleukia
- C. Leucopenia
- D. Ergotism
- E. Fuzariotoxicosis

160. A man of 45 years old complains about dryness in the mouth, weakness, diplopia in the eyes, impossibility to read, constipation, T=36,7°C. It is known from anamnesis, that 2 days ago he ate salads, domestic sausages, pate, borsch, stuffed cabbages with meat, mushrooms of the domestic canning, cake with cream. What food poisoning takes place in this case?

- A. Salmonellosis
- B. Food intoxication
- C. Poisoning with mushrooms
- D. Sausage-poisoning
- E. Staphylococcus toxicosis

161. In a hospital after breakfast, that consisted of milk, potato, butter, fish can foods and bread, 8 children were hospitalized with the signs of staphylococcus intoxication. Which of the above products, most probably, caused development of this disease?

- A. Milk
- B. Potato
- C. Oil
- D. Fish can foods
- E. Bread

162. At consumption of a plenty of the strawberries purchased at a market, at a child of 3 years old appeared nausea, vomiting, diarrhoea, stuffiness, cyanosis, hives, and decline of blood pressure, the content of methaemoglobin in the blood – 7%. What chemical matter, most probably, could cause poisoning of the child?

- A. Saltpetre
- B. Potassium fertilizers
- C. Phosphor organic pesticides
- D. Piretroid pesticides
- E. Carbonate pesticides

163. The 10 years old boy's daily feed ration contains the following elements: vitamin B₁–1.0mg, vitamin B₂–1.2mg, vitamin B₆–1.5mg, vitamin B₁₂–1.4mg, vitamin C–20mg. The boy complains about general weakness, rapid fatigueability, crabbiness, bleeding of the gums, petechiae on the legs. What type of hypovitaminosis has place at the boy?

- A. C
- B. B₁
- C. B₂
- D. B₆
- E. B₁₂

164. During prophylactic medical examination of a worker of a glass-casting workshop the strengthening of a pulmonary image, extended roots of the lungs, compression in the form of separate knots were determined on the radiograph of thorax organs. During the inspection of terms labours it was set, that the content of dust with 80% of SiO₂ makes in the air 10 mg/m³. The initial symptoms of what disease have possibly arisen up at the worker?

- A. Silicatosis
- B. Silicosis
- C. Amylosis
- D. Anthracosis
- E. Metalloconiosis

165. At a girl of 8 years old, the individual index of growth after the method of sigmal deviations differs from the middle one by +0.68, circumference of breasts -1.2 , the body weight -1.6 . What is the degree of physical development of this child?
- Lower of middle
 - Low
 - Higher of middle
 - High
 - Middle
166. During complex estimation of the state of health of 0–6 and 7–14 years old children and of 15–17 years old teenagers living in the industrially developed settlement, it was set, that illnesses of the organs of breathing, digestion, skin and hypodermic cellulose, endocrine and nervous systems prevail among the inspected age groups of children. Which of the above disorders takes II range in distributing diseases among the inspected age groups of children and teenagers (pursuant to conformities of the grade of distributing diseases in different age groups)?
- Diseases the breathing organs
 - Diseases the digestion organs
 - Diseases of the skin and hypodermic cellulose
 - Diseases of the endocrine system
 - Diseases of the nervous system
167. During study of feed of research female workers, it was set that their food ration contained 1.3 mg of thiamine, 0.8 mg of riboflavin, 16 mg of niacin, and 80 mg of ascorbic acid. Energetic value of the ration is 2000 kcal. Which of the above indexes requires correction?
- Content of thiamine
 - Content of ascorbic acid
 - Content of niacin
 - Content of riboflavin
 - Energetic value
168. During the examination of children of different age groups with the purpose of iodine-deficiency diseases determination by the method of ioduria it was set, that the median of concentration of iodine in urine of the inspected children varied on the average from 60 to 90 mcg/l. What is the level of iodine receipt in the organism of children in this case?
- Increased
 - Normal
 - Light deficit
 - Middle deficit
 - Heavy deficit
169. Parents purchased to a first-class boy a school desk with a folding lid, inclination of which makes 150, the height of seating at the desk corresponds to the length of the child's shin with additional height for low heels, the depth of seating makes $1/3$ of the thigh lengths, the height of the desks corresponds to a distance on a vertical line from seating to the elbow of the freely dropped hand plus 5 cm, the distance of the back exceeds the frontoposterior size of the child thorax by the width of his palm. What parameter of the child's school desk needs correction?
- Angle of lid inclination
 - Height of seat
 - Depth of seat
 - Height of the desks
 - Distance of back
170. A boy of 8 years old has the following indexes: body length 129 cm, body weight 29.5 kg ($+0,3\sigma_R$), circumference of thorax 62.9 cm ($+0,2\sigma_R$). Estimate physical development of this boy.
- Sharply disharmonious
 - Disharmonious
 - Harmonious

- D. Proportional
- E. Disproportional

171. In determination of separate parameters of microclimate in a lecture audience it was set, that the temperature of the air was 20°C, difference between the temperature of the air and temperature of walls – 2,5°C, overfalls of temperature on a horizontal line - 2,5°C, on a vertical line - 2,0°C, relative humidity – 70 %. Which of the following indexes of microclimate have been violated in relation to the hygienical requirements?
- A. Temperature of the air
 - B. Difference between the temperature of the air and the temperature of walls
 - C. Overfalls of temperatures on a horizontal line
 - D. Overfalls of temperatures on a vertical line
 - E. Relative humidity
172. Work of a machinist at one metallurgical factory requires the concentrated supervision after a technological process during 70% of his working time. For one hour it is necessary to process 175 informative signals. In emergency situations it is necessary to make quick decisions in the terms of large deficit of time, next to danger and high responsibility. Which of the following indexes of labour process is not characteristic of the described type of labour?
- A. Intellectual load
 - B. Sensor load
 - C. Physical dynamic load
 - D. Nervous-emotional load
 - E. Significance of errors
173. The microclimate of an apartment is of the following parameters: temperature of the air – 40°C; relative humidity – 100%; rate of movement of the air – 0.1 m/s; radiation temperature – 80°C. Denote the most credible pathological state of the organism in such conditions:
- A. General hyperthermia (heat-shock)
 - B. Decreased work capacity
 - C. Violation in the system of blood circulation
 - D. Violation of the respiratory system
 - E. Local hyperthermia
174. At the inspection of servicemen during implementation of an educational task at one of submarine boats, they complained on the head pain, tachycardia, and decline of work capacity. During laboratory examination acidosis and increased content of carbhaemoglobin was determined. What level of CO₂ (%) in the air could result in these clinical signs?
- A. 0,1-0,2
 - B. 1-2
 - C. 4-5
 - D. 8-10
175. A surgeon executes an operation duration of which makes 3 hours. The working pose is standing in the inclined position up to 30° that takes 60% of total time. Common time of concentration makes up to 90%. During the operation the surgeon must make decisions of the high responsibility concerning patient's life in the conditions of deficit of time. Which of the following indexes characterize hardness of the labour process?
- A. Time of concentration
 - B. Working pose
 - C. Deficit of time
 - D. Rate of responsibility
 - E. Duration of the operation
176. A boy of 13 years old suffers from bronchoectatic illness in the stage of subcompensation, every year he has pneumonia. What group of health can the boy be taken to?
- A. The 5th group of health

- B. The 4th group of health
- C. The 3rd group of health
- D. The 2nd group of health
- E. The 1st group of health

177. For estimation of the degree of school maturity of 6-years-old children the diagnostic test after Kern-Irasek was applied, pursuant to which the total assessment of the accomplishment of task made 3–4 points. What is the degree of school readiness at the inspected children?
- A. High;
 - B. Middle;
 - C. Low;
 - D. They are not ready after the level of physical development;
 - E. They are ready after the indexes of physical development.
178. For consumption is used the water with smell of 0 marks, colour– 20°, transparency – 32 sm, turbidness – 0,7 mg/dm³. Give hygienical estimation to organoleptic properties of the water.
- A. Increased turbidness
 - B. Decreased transparency
 - C. The level of all indexes corresponds to hygienical norms
 - D. Increased colour
 - E. Intensity of a strange smell exceeds admissible level
179. During hygienic estimation of production workshop on the work with metal at general school, it was set, that it was equipped with 14 working machine-tools located in 2 rows. Distance between the rows and from an internal wall to the machine-tools makes 1.0 m. Light onto working place falls from the left. What failing takes place in this case?
- A. The number of machine-tools in the workshop
 - B. Allocation of machine-tools in 2 rows
 - C. Left-sided illumination of workplaces
 - D. Distance between rows
 - E. Distance from the internal wall to the machine-tools
180. The building of a hospital is planned in a settlement. What index, first of all, influences on the area of land lot of future hospital:
- A. category of settlement;
 - B. territorial sizes of settlement;
 - C. system of hospital building;
 - D. bed fund of a hospital;
 - E. level of morbidity of population
181. An area that is taken under building by hospital premises occupies 19% of lot land, the area of planting of greenery is 62%, the green area presents 30 m² per an one bed. Green plantations are placed by a stripe of 15 m on the perimeter of area. Distance from a morbid anatomical building to the wards buildings is 32 m. Which index, from resulted, doesn't meet the hygienic requirements:
- A. Area of building
 - B. Green area per an one bed
 - C. Distance from a pathoanatomical building as to the chamber buildings
 - D. A width of green plantations is on the perimeter of area
 - E. Area of planting of greenery
182. It is set at the sanitary inspection of the operating room in the multilateral hospital: the area of operating-room is 38 m², windows are oriented on the north; general illumination is provided

by luminescent lamps, its level presents 200 lux, temperature of air of the operating-room is 22°C. Specify, what indexes doesn't meet hygienic norms:

- A. orientation of windows
- B. area of operating-room
- C. temperature
- D. level of illumination
- E. ventilation of air

183. Specify hygienic requirements to oxidation air of hospital wards of medical and prophylactic establishments:

- A. oxidation of air – 10-15 mg O₂/m³
- B. oxidation of air– 15-20 mg O₂/m³
- C. oxidation of air– 20-24 mg O₂/m³
- D. oxidation of air– 24-30 mg O₂/m³
- E. oxidation of air– 25-50 mg O₂/m³

184. Specify hygienic requirements to bacterial contamination of hospital wards of medical and prophylactic establishments:

- A. microbial number – up 3500 in m³
- B. microbial number – up 1000 in m³
- C. microbial number – up 500 in m³
- D. microbial number – up 1500 in m³
- E. microbial number – up 2500 in m³.

185. At the laboratory research of air of hospital ward it is found: general amount of microorganisms in air is 2500 on 1 m³, 125 from of them are gemolytic streptococcus. Specify, what measures must be taken in the ward with the aim of air decontamination:

- A. disinfection of air by 0,5% solution of chloramine
- B. ultraviolet irradiation by bactericidal lamps
- C. air electro-aeroionisation
- D. infra-red irradiation of air
- E. air conditioning

186. Measuring of indexes of microclimate is conducted in the operating-room of regional clinical hospital. Results of undertaken studies: the middle temperature of air is 20°C, relative humidity of air is 48%, rate of movement of air is 0,1 m/s. Give ahygienical estimation to the microclimate of operating-room.

- A. A microclimate is discomfort with an increase humidity;
- B. A microclimate is discomfort;
- C. a microclimate the discomfort cooling;
- D. a microclimate is a comfort;
- E. a microclimate is discomfort with an increase rate of movement of air.