1. CH_3-CH_2-OH and CH_3-O-CH_3 are a pair of compounds that can be classified as isomers of the
a. Carbon chain isomers
b. Geometric (cis-trans) isomers
c. Tautomers
d. Mirror (optical) isomers
e. Functional group isomers
2. CH_3-CH_2-OH and CH_3-O-CH_3 are a pair of compounds that can be classified as isomers of the
a. Mirror (optical) isomers
b. Geometric (cis-trans) isomers
c. Carbon chain isomers
d. Functional group isomers
e. Tautomers
3. A 10-year-old child has height of 178 cm and body mass of 67 kg. These presentations are caused b
a. Parathyroid glands
b. Adrenal glands
c. Pituitary gland
d. Thyroid gland
e. Gonads
4. A 10-year-old child has height of 178 cm and body mass of 67 kg. These presentations are caused b
a. Thyroid gland
b. Adrenal glands
c. Pituitary gland
d. Parathyroid glands
e. Gonads
5. A 37-year-old man developed leg edema after prolonged fasting. What pathogenetic factor plays the
a. Increased oncotic pressure in the tissues
b. Decreased oncotic blood pressure
c. Decreased osmotic blood pressure
d. Increased osmotic pressure of interstitial fluid
e. Decreased hydrostatic blood pressure
6. A 37-year-old man developed leg edema after prolonged fasting. What pathogenetic factor plays the
a. Increased osmotic pressure of interstitial fluid
b. Decreased osmotic blood pressure
c. Decreased hydrostatic blood pressure
d. Increased oncotic pressure in the tissues
e. Decreased oncotic blood pressure
7. A 50-year-old patient in a poor condition was presented to the hospital. Objectively, the skin an
a. Anemic
b. Tissue
c. Circulatory
d. Hypoxic
e. Hemic
8. A 50-year-old patient in a poor condition was presented to the hospital. Objectively, the skin an
a. Tissue
b. Circulatory
c. Hypoxic
d. Anemic
e. Hemic
9. A 53-year-old person has been admitted into the gastroenterology department with complaints of dy
a. Portal hypertension
b. Cholemia
c. Arterial hypotension
d. Suprahepatic jaundice
e. Acholia
10. A 53-year-old person has been admitted into the gastroenterology department with complaints of d

a. Suprahepatic jaundice
b. Cholemia
c. Acholia
d. Arterial hypotension
e. Portal hypertension
11. A 55-year-old man came to a doctor with complaints of acute pain in his big toes. Meat and wine
a. Bilirubin
b. Uric acid
c. Ketone bodies
d. Lactate
e. Urea
12. A 55-year-old man came to a doctor with complaints of acute pain in his big toes. Meat and wine
a. Bilirubin
b. Ketone bodies
c. Urea
d. Lactate
e. Uric acid
13. A benzimidazole derivative, omeprazole, has been prescribed to a patient with a duodenal ulcer a
a. Stimulation of H^+, K^+ -ATPase
b. Blockade of M1-cholinergic receptors
c. Irreversible blockade of H^+, K^+ -ATPase
d. Blockade of H2-histamine receptors
e. Stimulation of H2-histamine receptors
14. A benzimidazole derivative, omeprazole, has been prescribed to a patient with a duodenal ulcer a
a. Stimulation of H2-histamine receptors
b. Stimulation of H^+, K^+ -ATPase
c. Irreversible blockade of H^+, K^+ -ATPase
d. Blockade of H2-histamine receptors
e. Blockade of M1-cholinergic receptors
15. A child had been administered antidiphtheric serum. What resistance was formed in the child?
a. Active
b. Primary
c. Passive
d. Physiological
e. Pathologic
16. A child had been administered antidiphtheric serum. What resistance was formed in the child?
a. Primary
b. Physiological
c. Passive
d. Active
e. Pathologic
17. A dissected flower has numerous stamens that are united by the stamen filaments into several bun
a. Polyadelphous
b. Diadelphous
c. Monadelphous
d. Tetradynamous
e. Didynamous
18. A dissected flower has numerous stamens that are united by the stamen filaments into several bun
a. Tetradynamous
b. Polyadelphous
c. Didynamous
d. Monadelphous
e. Diadelphous
19. A doctor has prescribed a nonsteroidal anti-inflammatory drug to relieve inflammation and pain s
a. Glibenclamide

b. Loratadine
c. Paracetamol
d. Fentanyl
e. Diclofenac sodium
20. A doctor has prescribed a nonsteroidal anti-inflammatory drug to relieve inflammation and pain s
a. Loratadine
b. Fentanyl
c. Glibenclamide
d. Paracetamol
e. Diclofenac sodium
21. A drug solution sterilized by means of boiling was tested for sterility. Inoculation on Kitt-Tar
a. Acid-fast
b. Spore-formers
c. Prototrophic
d. Thermophilic
e. Anaerobic
22. A drug solution sterilized by means of boiling was tested for sterility. Inoculation on Kitt-Tar
a. Anaerobic
b. Acid-fast
c. Thermophilic
d. Spore-formers
e. Prototrophic
23. A dry-heat box is used for sterilization of various materials and instruments in a bacteriologic
a. Simple nutrient medium
b. Physiological solution
c. Glass test tubes
d. Wire inoculating loops
e. Rubber gloves
24. A dry-heat box is used for sterilization of various materials and instruments in a bacteriologic
a. Simple nutrient medium
b. Rubber gloves
c. Wire inoculating loops
d. Physiological solution
e. Glass test tubes
25. A human is immune to the plague of cattle and dogs. What type of immunity is it?
a. Artificial active
b. Natural active
c. Natural passive
d. Innate
e. Artificial passive
26. A human is immune to the plague of cattle and dogs. What type of immunity is it?
a. Natural active
b. Artificial passive
c. Natural passive
d. Innate
e. Artificial active
27. A local general practitioner recommends taking interferon for influenza prevention. What is the
a. Blocks virus protein synthesis
b. Inhibits virion exit from cells
c. Prevents adsorption of virus in cell receptors
d. Blocks virus stripping
e. Disrupts the process of virus assembly
28. A local general practitioner recommends taking interferon for influenza prevention. What is the
a. Prevents adsorption of virus in cell receptors
b. Disrupts the process of virus assembly

c. Blocks virus protein synthesis
d. Blocks virus stripping
e. Inhibits virion exit from cells
29. A man came to a doctor complaining of a headache, pain in the throat during swallowing, and an i
a. Neutrophilic leukocytosis
b. Eosinophilic leukocytosis
c. Monocytosis
d. Lymphocytosis
e. Basophilic leukocytosis
30. A man came to a doctor complaining of a headache, pain in the throat during swallowing, and an i
a. Lymphocytosis
b. Basophilic leukocytosis
c. Eosinophilic leukocytosis
d. Neutrophilic leukocytosis
e. Monocytosis
31. A man developed agranulocytosis after pneumonia treatment with sulfonamides. Antibodies to neutr
a. Immune complex
b. Anaphylactic
c. Cytotoxic
d. Cell-mediated
e. Reactive
32. A man developed agranulocytosis after pneumonia treatment with sulfonamides. Antibodies to neutr
a. Immune complex
b. Cell-mediated
c. Anaphylactic
d. Cytotoxic
e. Reactive
33. A man has a nitrate poisoning. What type of hypoxia will develop in this case?
a. Hemic hypoxia
b. Circulatory hypoxia
c. Tissue hypoxia
d. Hypoxic hypoxia
e. Respiratory hypoxia
34. A man has a nitrate poisoning. What type of hypoxia will develop in this case?
a. Hemic hypoxia
b. Tissue hypoxia
c. Respiratory hypoxia
d. Circulatory hypoxia
e. Hypoxic hypoxia
35. A man has undergone a course of radiotherapy and chemotherapy. The drug complex included 5-fluor
a. DNA
b. Protein
c. rRNA
d. mRNA
e. tRNA
36. A man has undergone a course of radiotherapy and chemotherapy. The drug complex included 5-fluor
a. DNA
b. Protein
c. tRNA
d. rRNA
e. mRNA
37. A patient complains of loss of appetite, weight loss, weakness, and abdominal pain. Laboratory b
a. Pepsin
b. Secretin
c. Castle factor

d. Hydrochloric acid
e. Renin
38. A patient complains of loss of appetite, weight loss, weakness, and abdominal pain. Laboratory b
a. Secretin
b. Renin
c. Castle factor
d. Hydrochloric acid
e. Pepsin
39. A patient demonstrates symmetrical dermatitis on the palms. A doctor made a diagnosis of pellagr
a. Ascorbic acid
b. Nicotinic acid
c. Folic acid
d. Cholecalciferol
e. Cobalamin
40. A patient demonstrates symmetrical dermatitis on the palms. A doctor made a diagnosis of pellagr
a. Ascorbic acid
b. Cholecalciferol
c. Nicotinic acid
d. Cobalamin
e. Folic acid
41. A patient developed neuritis of the facial nerve after five months of tuberculosis treatment. Wh
a. Benzylpenicillin sodium
b. Isoniazid
c. Rifampicin
d. Para-aminosalicylate sodium
e. Ceftriaxone
42. A patient developed neuritis of the facial nerve after five months of tuberculosis treatment. Wh
a. Benzylpenicillin sodium
b. Ceftriaxone
c. Isoniazid
d. Rifampicin
e. Para-aminosalicylate sodium
43. A patient has been diagnosed with acute pancreatitis. For diagnostic purposes, it is necessary t
a. Amylase
b. Lactate dehydrogenase
c. Creatine kinase
d. Aldolase
e. Pepsin
44. A patient has been diagnosed with acute pancreatitis. For diagnostic purposes, it is necessary t
a. Pepsin
b. Creatine kinase
c. Amylase
d. Lactate dehydrogenase
e. Aldolase
45. A patient has been hospitalized with signs of carbon monoxide poisoning. What type of hypoxia is
a. Hypoxic hypoxia
b. Respiratory hypoxia
c. Hemic hypoxia
d. Tissue hypoxia
e. Circulatory hypoxia
46. A patient has been hospitalized with signs of carbon monoxide poisoning. What type of hypoxia is
a. Tissue hypoxia
b. Hypoxic hypoxia
c. Respiratory hypoxia
d. Hemic hypoxia

e. Circulatory hypoxia
47. A patient has been warned that the medicine prescribed to him can cause a cough. Name this medic
a. Lisinopril
b. Phenyhydin (Nifedipine)
c. Dichlothiazide (Hydrochlorothiazide)
d. Clophelin (Clonidine)
e. Metoprolol
48. A patient has been warned that the medicine prescribed to him can cause a cough. Name this medic
a. Dichlothiazide (Hydrochlorothiazide)
b. Clophelin (Clonidine)
c. Lisinopril
d. Phenyhydin (Nifedipine)
e. Metoprolol
49. A patient presents with hypoxia. What metabolic process activates when oxygen supply is insuffic
a. Oxidative decarboxylation of keto acids
b. Anaerobic glycolysis
c. Pentose-phosphate pathway
d. Tricarboxylic acid cycle
e. Urea cycle
50. A patient presents with hypoxia. What metabolic process activates when oxygen supply is insuffic
a. Pentose-phosphate pathway
b. Urea cycle
c. Anaerobic glycolysis
d. Oxidative decarboxylation of keto acids
e. Tricarboxylic acid cycle
51. A patient suffers from intense cough with production of viscous sputum. What drug can thin the s
a. Acetylcysteine
b. Prenoxdiazine
c. Codeine phosphate
d. Butamirate
e. Glaucine
52. A patient suffers from intense cough with production of viscous sputum. What drug can thin the s
a. Prenoxdiazine
b. Glaucine
c. Butamirate
d. Acetylcysteine
e. Codeine phosphate
53. A patient was prescribed losartan for treatment of arterial hypertension. What mechanism of acti
a. Inhibition of angiotensin-converting enzyme
b. Angiotensin-receptor blockade
c. Calcium channel blockade
d. Activation of central α-adrenoceptors
e. Inhibition of phosphodiesterase
54. A patient was prescribed losartan for treatment of arterial hypertension. What mechanism of acti
a. Inhibition of angiotensin-converting enzyme
b. Calcium channel blockade
c. Activation of central α-adrenoceptors
d. Angiotensin-receptor blockade
e. Inhibition of phosphodiesterase
55. A patient with Cushing syndrome has persistent hyper- \\ glycemia and glucosuria. In this case,
a. Adrenaline
b. Thyroxine
c. Cortisol
d. Insulin
e. Glucagon

56. A patient with Cushing syndrome has persistent hyper- \\ glycemia and glucosuria. In this case,
a. Insulin
b. Thyroxine
c. Glucagon
d. Adrenaline
e. Cortisol
57. A patient with an acute myocardial infarction had been receiving heparin as a component of compl
a. Aminocaproic acid
b. Fibrinogen
c. Neodicoumarin (ethyl biscoumacetate)
d. Protamine sulfate
e. Vicasol (Menadione)
58. A patient with an acute myocardial infarction had been receiving heparin as a component of compl
a. Neodicoumarin (ethyl biscoumacetate)
b. Aminocaproic acid
c. Fibrinogen
d. Vicasol (Menadione)
e. Protamine sulfate
59. A patient with gingivitis was prescribed oral cavity irrigation with 0.02% potassium permanganat
a. Alcohols
b. Nitrofurans
c. Detergents
d. Oxidants
e. Dyes
60. A patient with gingivitis was prescribed oral cavity irrigation with 0.02% potassium permanganat
a. Dyes
b. Detergents
c. Oxidants
d. Alcohols
e. Nitrofurans
61. A patient with gout has been prescribed allopurinol. What is the mechanism of action of this dru
a. Intensification of uric acid excretion by the kidneys
b. Inhibition of xanthine oxidase enzyme, inhibition of uric acid synthesis
c. Inhibition of COX-2 enzyme
d. Stimulation of uric acid breakdown
e. Activation of microsomal oxidation in the liver
62. A patient with gout has been prescribed allopurinol. What is the mechanism of action of this dru
a. Intensification of uric acid excretion by the kidneys
b. Stimulation of uric acid breakdown
c. Inhibition of COX-2 enzyme
d. Activation of microsomal oxidation in the liver
e. Inhibition of xanthine oxidase enzyme, inhibition of uric acid synthesis
63. A patient with signs of mercury poisoning has been delivered into an admission room. What antido
a. Unithiol
b. Proserin
c. Calcium chloride
d. Naloxone
e. Atropine sulfate
64. A patient with signs of mercury poisoning has been delivered into an admission room. What antido
a. Calcium chloride
b. Unithiol
c. Naloxone
d. Proserin
e. Atropine sulfate
65. A patient, who has been suffering from chronic glomerulonephritis for the last 4 years, presents

a. Nephrotic
b. Toxic
c. Asthenic
d. Hypertensive
e. Inflammatory
66. A patient, who has been suffering from chronic glomerulonephritis for the last 4 years, presents
a. Inflammatory
b. Nephrotic
c. Toxic
d. Hypertensive
e. Asthenic
67. A patient, who was prescribed famotidine for peptic ulcer disease, came to a pharmacy. What mech
a. Inhibition of the H^+K^+ ATPase activity
b. H_1-histamine receptors blockade
c. H_2-histamine receptors blockade
d. Muscarinic cholinoreceptor blockade
e. Cholinergic receptors blockade in the sympathetic ganglia
68. A patient, who was prescribed famotidine for peptic ulcer disease, came to a pharmacy. What mech
a. Muscarinic cholinoreceptor blockade
b. Inhibition of the H^+K^+ ATPase activity
c. Cholinergic receptors blockade in the sympathetic ganglia
d. H_1-histamine receptors blockade
e. H_2-histamine receptors blockade
69. A person came to a doctor with complaints of loss of sensitivity and pain along the peripheral n
a. Pantothenic acid
b. Biotin
c. Vitamin PP
d. Vitamin $B1$
e. Vitamin $B2$
70. A person came to a doctor with complaints of loss of sensitivity and pain along the peripheral n
a. Pantothenic acid
b. Vitamin PP
c. Vitamin $B2$
d. Biotin
e. Vitamin $B1$
71. A person has been stung by a bee. The stung area developed redness and edema. What is the main m
a. Increased hydrostatic blood pressure
b. Decreased oncotic blood pressure
c. Decreased osmotic blood pressure
d. Increased permeability of the \\ capillaries
e. Disturbed lymphatic efflux
72. A solution contains calcium, barium, aluminium, potassium, and sodium cations. Into this solutio
a. Calcium
b. Barium
c. Aluminium
d. Potassium
e. Sodium
73. A solution contains calcium, barium, aluminium, potassium, and sodium cations. Into this solutio
a. Sodium
b. Potassium
c. Barium
d. Calcium
e. Aluminium
74. A student studies the digestive system of vertebrates. The organ that is being studied is primar
a. Liver

b. Heart
c. Kidneys
d. Lungs
e. Pancreas
75. A student studies the digestive system of vertebrates. The organ that is being studied is primar
a. Liver
b. Pancreas
c. Heart
d. Lungs
e. Kidneys
76. A study of the microbiological purity of tablet formulations is conducted on the production site
a. Pseudomonas aeruginosa
b. Enterobacteriaceae
c. Staphylococcus epidermidis
d. Staphylococcus aureus
e. Staphylococcus saprophyticus
77. A study of the microbiological purity of tablet formulations is conducted on the production site
a. Staphylococcus epidermidis
b. Staphylococcus saprophyticus
c. Pseudomonas aeruginosa
d. Enterobacteriaceae
e. Staphylococcus aureus
78. A woman in the state of ketoacidotic coma has loud rapid respiration: a labored expiration with
a. Kussmaul
b. Cheyne-Stokes
c. Stenotic
d. Biot
e. Gasping
79. A woman in the state of ketoacidotic coma has loud rapid respiration: a labored expiration with
a. Biot
b. Cheyne-Stokes
c. Kussmaul
d. Gasping
e. Stenotic
80. A woman with hypertension came to a doctor complaining of dry cough that developed against the b
a. Atenolol
b. Furosemide
c. Nifedipine
d. Dichlothiazide (Hydrochlorothiazide)
e. Lisinopril
81. A woman with hypertension came to a doctor complaining of dry cough that developed against the b
a. Nifedipine
b. Lisinopril
c. Atenolol
d. Furosemide
e. Dichlothiazide (Hydrochlorothiazide)
82. A woman, who works at a factory that produces phenylhydrazine, came to a hospital with complaint
a. Aplastic anemia
b. Protein-deficiency anemia
c. Iron-deficiency anemia
d. Metaplastic anemia
e. Hemolytic anemia
83. A woman, who works at a factory that produces phenylhydrazine, came to a hospital with complaint
a. Protein-deficiency anemia
b. Iron-deficiency anemia

c. Hemolytic anemia
d. Aplastic anemia
e. Metaplastic anemia
84. According to Van't Hoff rule, when the temperature is raised by 10 degrees, the reaction rate in
a. 10 times
b. 5 times
c. 2--4 times
d. 1.5 times
e. Temperature does not affect reaction rate
85. According to Van't Hoff rule, when the temperature is raised by 10 degrees, the reaction rate in
a. 10 times
b. Temperature does not affect reaction rate
c. 1.5 times
d. 5 times
e. 2--4 times
86. Action of a number of drugs is based on the effect of competitive inhibition of enzyme activity.
a. Inhibition degree does not depend on the substrate concentration
b. Inhibitor is a structural analogue of the enzyme
c. Inhibitor forms strong covalent bonds with the active site of the enzyme
d. Inhibitor is a structural analogue of the substrate
e. Inhibitor has no effect on the enzyme's affinity for its substrate
87. Action of a number of drugs is based on the effect of competitive inhibition of enzyme activity.
a. Inhibitor forms strong covalent bonds with the active site of the enzyme
b. Inhibition degree does not depend on the substrate concentration
c. Inhibitor is a structural analogue of the enzyme
d. Inhibitor has no effect on the enzyme's affinity for its substrate
e. Inhibitor is a structural analogue of the substrate
88. After a physical exertion, a patient developed an angina pectoris attack caused by myocardial is
a. Decreased erythrocyte count in the blood
b. Increased oxygen delivery to tissues
c. Dilation of arterioles
d. Oxygen deficiency in the circulatory system
e. Discrepancy between the blood supply to the tissues and the need for it
89. After a physical exertion, a patient developed an angina pectoris attack caused by myocardial is
a. Dilation of arterioles
b. Decreased erythrocyte count in the blood
c. Increased oxygen delivery to tissues
d. Oxygen deficiency in the circulatory system
e. Discrepancy between the blood supply to the tissues and the need for it
90. After eating strawberries, a child developed itchy red spots on the skin (urticaria). What type
a. Basophilic
b. Neutrophilic
c. Eosinophilic
d. Monocytic
e. Lymphocytic
91. After eating strawberries, a child developed itchy red spots on the skin (urticaria). What type
a. Basophilic
b. Neutrophilic
c. Lymphocytic
d. Monocytic
e. Eosinophilic
92. After the examination, the patient was diagnosed with typhus. What is the route of transmission
a. Vector-borne transmission
b. Fecal-oral transmission
c. Vertical transmission

d. Parenteral transmission
e. Airborne droplet transmission
93. After the examination, the patient was diagnosed with typhus. What is the route of transmission
a. Fecal-oral transmission
b. Airborne droplet transmission
c. Vector-borne transmission
d. Parenteral transmission
e. Vertical transmission
94. An analytical chemist conducts a qualitative analysis of cations of the second group. What reage
a. Hot water
b. Ammonia
c. Sodium hydroxide
d. Hydrochloric acid
e. Sodium chloride
95. An analytical chemist conducts a qualitative analysis of cations of the second group. What reage
a. Sodium chloride
b. Sodium hydroxide
c. Ammonia
d. Hydrochloric acid
e. Hot water
96. An analytical chemist performs a qualitative analysis of cations that belong to the sixth analyt
a. Yellow
b. Red
c. Green
d. Blue
e. Violet
97. An analytical chemist performs a qualitative analysis of cations that belong to the sixth analyt
a. Yellow
b. Violet
c. Blue
d. Green
e. Red
98. An elderly patient suffers from constipation caused by colon hypotonia. What drug should be pres
a. Atropine sulfate
b. Castor oil
c. Novocainamide (Procainamide)
d. Bisacodyl
e. Sodium sulfate
99. An elderly patient suffers from constipation caused by colon hypotonia. What drug should be pres
a. Novocainamide (Procainamide)
b. Bisacodyl
c. Castor oil
d. Sodium sulfate
e. Atropine sulfate
100. Caffeine is one of the alkaloids contained in tea and coffee. Caffeine is contraindicated in ca
a. Essential hypertension
b. Depression of nervous activity
c. Addiction
d. Hypotension
e. Migraine
101. Caffeine is one of the alkaloids contained in tea and coffee. Caffeine is contraindicated in ca
a. Hypotension
b. Migraine
c. Depression of nervous activity
d. Addiction

e. Essential hypertension
102. Corolla of a zygomorphic hermaphroditic flower consists of 5 petals: the largest one is called
a. Papilionaceous
b. Funnelform
c. Tubular
d. Labiate
e. Saucer-shaped
103. Corolla of a zygomorphic hermaphroditic flower consists of 5 petals: the largest one is called
a. Tubular
b. Labiate
c. Papilionaceous
d. Funnelform
e. Saucer-shaped
104. Cosmetic cream against mimic wrinkles contains "vitamin Q10" --- ubiquinone. What is the metabo
a. It is a component of the mitochondrial respiratory chain
b. It decreases permeability of cell membranes
c. It regulates differentiation of epithelial cells
d. It regulates water-salt exchange
e. It stimulates collagen synthesis
105. Cosmetic cream against mimic wrinkles contains "vitamin Q10" --- ubiquinone. What is the metabo
a. It regulates differentiation of epithelial cells
b. It is a component of the mitochondrial respiratory chain
c. It stimulates collagen synthesis
d. It decreases permeability of cell membranes
e. It regulates water-salt exchange
106. Coumarins, vitamin K antagonists, suppress the processes of blood coagulation. Synthesis of wha
a. Prothrombin
b. Transferrin
c. Gamma globulin
d. Ceruloplasmin
e. Albumin
107. Coumarins, vitamin K antagonists, suppress the processes of blood coagulation. Synthesis of wha
a. Ceruloplasmin
b. Prothrombin
c. Gamma globulin
d. Albumin
e. Transferrin
108. Cultivated annual plant with glands and indumentum has alternate obovate leaves and flat capitu
a. Artemisia absinthium
b. Centaurea cyanus
c. Calendula officinalis
d. Arctium lappa
e. Echinacea purpurea
109. Cultivated annual plant with glands and indumentum has alternate obovate leaves and flat capitu
a. Echinacea purpurea
b. Calendula officinalis
c. Centaurea cyanus
d. Arctium lappa
e. Artemisia absinthium
110. Different structures of the bacterial cell perform different special functions. This component
a. Cilia
b. Spores
c. Flagella
d. Inclusions
e. Capsule

111. Different structures of the bacterial cell perform different special functions. This component
a. Flagella
b. Spores
c. Inclusions
d. Cilia
e. Capsule
112. During bacteriology of the feces of a patient with diarrhea, a pure culture of rod-shaped, slig
a. Vibrio cholerae
b. Spirochetes
c. Salmonellae
d. Mycobacteria
e. Escherichia coli
113. During bacteriology of the feces of a patient with diarrhea, a pure culture of rod-shaped, slig
a. Escherichia coli
b. Mycobacteria
c. Salmonellae
d. Vibrio cholerae
e. Spirochetes
114. During examination it appeared that the patient's sclera and oral mucosa are icteric. What bioc
a. Glucose
b. Bilirubin
c. Cholesterol
d. Albumin
e. Amylase
115. During examination it appeared that the patient's sclera and oral mucosa are icteric. What bioc
a. Glucose
b. Amylase
c. Bilirubin
d. Albumin
e. Cholesterol
116. During harvesting of a herbal raw material (belladonna), the plants had burns and patches of wi
a. Microfungi
b. Mycoplasma
c. Protozoa
d. Viroids
e. Viruses
117. During harvesting of a herbal raw material (belladonna), the plants had burns and patches of wi
a. Viruses
b. Microfungi
c. Mycoplasma
d. Protozoa
e. Viroids
118. During photosynthesis within plant cell chloroplasts there is short-term retained starch being
a. Primary
b. Transitory
c. Reserve
d. Secondary
e. Resistant
119. During photosynthesis within plant cell chloroplasts there is short-term retained starch being
a. Transitory
b. Reserve
c. Resistant
d. Primary
e. Secondary
120. During the analysis of the cations that belong to the fourth analytical group (acid-base classi

a. Al(III) ions
b. Zn(II) ions
c. As(III) ions
d. Sn(IV) ions
e. Cr(III) ions
121. During the analysis of the cations that belong to the fourth analytical group (acid-base classi
a. Sn(IV) ions
b. As(III) ions
c. Zn(II) ions
d. Al(III) ions
e. Cr(III) ions
122. During the assessment of air purity in an aseptic unit of a phamacy, sedimentation analysis res
a. Endo agar
b. Egg-yolk salt agar
c. Levine formulation (eosin methylene blue agar)
d. Ploskirev agar
e. Blood agar
123. During the assessment of air purity in an aseptic unit of a phamacy, sedimentation analysis res
a. Levine formulation (eosin methylene blue agar)
b. Blood agar
c. Egg-yolk salt agar
d. Endo agar
e. Ploskirev agar
124. Early-flowering rhizomatous ephemeroids include: Tussilago farfara, Convallaria majalis, and:
a. Adonis vernalis
b. Allium cepa
c. Thymus serpyllum
d. Carum carvi
e. Chamomilla recutita
125. Early-flowering rhizomatous ephemeroids include: Tussilago farfara, Convallaria majalis, and:
a. Carum carvi
b. Chamomilla recutita
c. Thymus serpyllum
d. Adonis vernalis
e. Allium cepa
126. Elevated levels of ketone bodies were detected in the blood of a patient with diabetes mellitus
a. Acetyl-CoA
b. Lactate
c. Glucose
d. Malate
e. Succinate
127. Elevated levels of ketone bodies were detected in the blood of a patient with diabetes mellitus
a. Acetyl-CoA
b. Lactate
c. Malate
d. Glucose
e. Succinate
128. Essential oils are used both in pharmaceutical and cosmetic industry. To extract essential oils
a. Calorimetry
b. Conductometry
c. Colorimetry
d. Potentiometry
e. Steam distillation
129. Essential oils are used both in pharmaceutical and cosmetic industry. To extract essential oils
a. Potentiometry

b. Calorimetry
c. Colorimetry
d. Steam distillation
e. Conductometry
130. Etiological factors of infectious diseases can be infectious agents with diverse ultrastructure
a. Protozoa
b. Viruses
c. Fungi
d. Bacteria
e. Rickettsia
131. Etiological factors of infectious diseases can be infectious agents with diverse ultrastructure
a. Protozoa
b. Rickettsia
c. Bacteria
d. Viruses
e. Fungi
132. For tetanus prevention, a toxin that has been neutralized with formalin (0.4%) at the temperatu
a. Adjuvant
b. Antitoxic serum
c. Anatoxin
d. Immunoglobulin
e. Inactivated vaccine
133. For tetanus prevention, a toxin that has been neutralized with formalin (0.4%) at the temperatu
a. Inactivated vaccine
b. Adjuvant
c. Immunoglobulin
d. Antitoxic serum
e. Anatoxin
134. For the symptomatic treatment of diarrhea, the doctor prescribed the patient a drug that inhibi
a. Mannitol
b. Augmentin (Co-amoxiclav)
c. Thiamine
d. Dexamethasone
e. Loperamide
135. For the symptomatic treatment of diarrhea, the doctor prescribed the patient a drug that inhibi
a. Thiamine
b. Loperamide
c. Augmentin (Co-amoxiclav)
d. Dexamethasone
e. Mannitol
136. Gastric herbal tea contains oval brown lignified "cones" up to 1.5 cm long, which are:
a. Juniperus galbuli
b. Larix cones
c. Platycladus orientalis cones
d. Alnus infructescences
e. Cupressus cones
137. Gastric herbal tea contains oval brown lignified "cones" up to 1.5 cm long, which are:
a. Platycladus orientalis cones
b. Juniperus galbuli
c. Larix cones
d. Cupressus cones
e. Alnus infructescences
138. Glycyrrhiza glabra L., a valuable medicinal plant, is widely used in official and folk medicine
a. Roots with rhizomes
b. Seeds

c. Grass
d. Leaves
e. Inflorescences
139. Glycyrrhiza glabra L., a valuable medicinal plant, is widely used in official and folk medicine
a. Leaves
b. Roots with rhizomes
c. Grass
d. Inflorescences
e. Seeds
140. Having examined the patient, the doctor made a diagnosis of tick-borne encephalitis. What is th
a. Airborne-droplet
b. Vertical
c. Vector-borne
d. Fecal-oral
e. Parenteral
141. Having examined the patient, the doctor made a diagnosis of tick-borne encephalitis. What is th
a. Parenteral
b. Airborne-droplet
c. Vector-borne
d. Fecal-oral
e. Vertical
142. Helmholtz energy is the direction criterion of an arbitrary process at a constant:
a. Temperature and volume
b. Entropy and pressure
c. Entropy and volume
d. Temperature and pressure
e. Internal energy and volume
143. Helmholtz energy is the direction criterion of an arbitrary process at a constant:
a. Entropy and pressure
b. Temperature and pressure
c. Internal energy and volume
d. Temperature and volume
e. Entropy and volume
144. How many stereoisomeric aldohexoses exist?
a. 16
b. 4
c. 6
d. 8
e. 2
145. How many stereoisomeric aldohexoses exist?
a. 6
b. 2
c. 16
d. 4
e. 8
146. Hyperlipemia can be observed in 2--3 hours after eating fatty food. 9 hours later lipid content
a. Hyperplastic obesity
b. Alimentary hyperlipemia
c. Retention hyperlipemia
d. Hypertrophic obesity
e. Transport hyperlipemia
147. Hyperlipemia can be observed in 2--3 hours after eating fatty food. 9 hours later lipid content
a. Hyperplastic obesity
b. Transport hyperlipemia
c. Retention hyperlipemia

d. Alimentary hyperlipemia
e. Hypertrophic obesity
148. In E) coli cells, the synthesis of pyrimidine nucleotides occurs according to the scheme of the
a. Attachment of inhibitor proteins
b. Enzyme molecule phosphorylation
c. Partial proteolysis
d. Allosteric regulation
e. Detachment of inhibitor proteins
149. In E) coli cells, the synthesis of pyrimidine nucleotides occurs according to the scheme of the
a. Partial proteolysis
b. Attachment of inhibitor proteins
c. Detachment of inhibitor proteins
d. Enzyme molecule phosphorylation
e. Allosteric regulation
150. In cases of severe pancreatitis, physicians usually prescribe the drugs that help prevent pancr
a. Amylases
b. Phosphatases
c. Dehydrogenases
d. Proteases
e. Lipases
151. In cases of severe pancreatitis, physicians usually prescribe the drugs that help prevent pancr
a. Phosphatases
b. Proteases
c. Lipases
d. Dehydrogenases
e. Amylases
152. In common corn (Zea mays), male spikelets are gathered in an apical panicle and female flowerin
a. Dioecious
b. Monandrous
c. Polyecious
d. Monoecious
e. Unisexual
153. In common corn (Zea mays), male spikelets are gathered in an apical panicle and female flowerin
a. Unisexual
b. Monandrous
c. Dioecious
d. Monoecious
e. Polyecious
154. In medical practice barbiturates are used as sleeping pills. These substances act similar to ro
a. Cytochrome C reductase
b. Succinate dehydrogenase
c. NADH-coenzyme Q reductase
d. Adenosine triphosphate synthetase
e. Cytochrome oxidase
155. In medical practice barbiturates are used as sleeping pills. These substances act similar to ro
a. Cytochrome oxidase
b. NADH-coenzyme Q reductase
c. Succinate dehydrogenase
d. Cytochrome C reductase
e. Adenosine triphosphate synthetase
156. In medicine and pharmacy, such phenomena as adsorption, wetting, adhesion, etc. can be observed
a. Electrokinetic phenomena
b. Superficial phenomena
c. Optical phenomena
d. Molecular-kinetic phenomena

e. Physico-chemical phenomena
157. In medicine and pharmacy, such phenomena as adsorption, wetting, adhesion, etc. can be observed
a. Molecular-kinetic phenomena
b. Electrokinetic phenomena
c. Physico-chemical phenomena
d. Optical phenomena
e. Superficial phenomena
158. In order to carry out the silver cations identification, HCl was added to the solution. Later,
a. $[Ag(NH_3)_2]Cl$
b. $[Ag(NH_3)_3]Cl$
c. $AgCl$
d. $[Ag_2(NH_3)_3]Cl$
e. AgOH
159. In order to carry out the silver cations identification, HCl was added to the solution. Later,
a. $[Ag(NH_3)_3]Cl$
b. $[Ag_2(NH_3)_3]Cl$
c. $[Ag(NH_3)_2]Cl$
d. AgOH
e. $AgCl$
160. In order to facilitate usage and achievement of necessary therapeutic effect, the drug or medic
a. Diaphragm
b. Jelly
c. Membrane
d. Emulsion
e. Gel
161. In order to facilitate usage and achievement of necessary therapeutic effect, the drug or medic
a. Jelly
b. Membrane
c. Gel
d. Diaphragm
e. Emulsion
162. In redox titrimetry, the indicators that are added to the reaction system respond to the change
a. Degree of ionization of the substance being analyzed
b. Concentration of hydroxyl ions
c. Ionic strength of the solution
d. Concentration of hydrogen ions
e. Redox potential of the system
163. In redox titrimetry, the indicators that are added to the reaction system respond to the change
a. Ionic strength of the solution
b. Concentration of hydrogen ions
c. Concentration of hydroxyl ions
d. Redox potential of the system
e. Degree of ionization of the substance being analyzed
164. In snake venom there is a substance that causes erythrocyte hemolysis when it is introduced int
a. Phospholipase A1
b. Phospholipase A2
c. Phospholipase D
d. Neuraminidase
e. Phospholipase C
165. In snake venom there is a substance that causes erythrocyte hemolysis when it is introduced int
a. Phospholipase D
b. Neuraminidase
c. Phospholipase A2
d. Phospholipase C
e. Phospholipase A1

166. In the course of an experiment in the mesenteric vein of a toad a trombus was created with a cr
a. Production of fibrin monomer
b. Production of thrombin
c. Adhesion, aggregation, agglutination of platelets
d. Production of fibrin polymer
e. Production of active thromboplastin
167. In the course of an experiment in the mesenteric vein of a toad a trombus was created with a cr
a. Production of thrombin
b. Production of fibrin monomer
c. Adhesion, aggregation, agglutination of platelets
d. Production of fibrin polymer
e. Production of active thromboplastin
168. In the patient, a gallstone lodged in the common bile duct has blocked the flow of bile into th
a. Digestion of fats
b. Absorption of proteins
c. Digestion of carbohydrates
d. Digestion of proteins
e. Absorption of carbohydrates
169. In the patient, a gallstone lodged in the common bile duct has blocked the flow of bile into th
a. Absorption of proteins
b. Absorption of carbohydrates
c. Digestion of proteins
d. Digestion of carbohydrates
e. Digestion of fats
170. In the process of asexual reproduction, higher spore-forming plants have the ability to form sp
a. Polyploid
b. Triploid
c. Diploid
d. Haploid
e. Tetraploid
171. In the process of asexual reproduction, higher spore-forming plants have the ability to form sp
a. Tetraploid
b. Haploid
c. Diploid
d. Polyploid
e. Triploid
172. In the process of creating vaccines, pathogens of infectious diseases are being attenuated. Wha
a. Discovering antigenic determinants of the main antigens of the pathogen
b. Inactivation of pathogens while preserving the antigenic structure of cells
c. Reduction of immunogenicity of the pathogen
d. Isolation of protective antigens from microbial cells
e. Artificial reduction of virulent properties of pathogens
173. In the process of creating vaccines, pathogens of infectious diseases are being attenuated. Wha
a. Inactivation of pathogens while preserving the antigenic structure of cells
b. Discovering antigenic determinants of the main antigens of the pathogen
c. Reduction of immunogenicity of the pathogen
d. Artificial reduction of virulent properties of pathogens
e. Isolation of protective antigens from microbial cells
174. In the roots of primary structure, the nutrient reserves are stored in the:
a. Central axial cylinder
b. Exodermis
c. Mesodermis
d. Pericycle
e. Endodermis
175. In the roots of primary structure, the nutrient reserves are stored in the:

a. Central axial cylinder
b. Pericycle
c. Mesodermis
d. Exodermis
e. Endodermis
176. In what pair of substances the both of them form a precipitate of metallic silver when Tollens
a. Propanal and formic acid
b. Acetic acid and formic acid
c. Propanal and acetic acid
d. Propanol and formic acid
e. Ethanol and formic acid
177. In what pair of substances the both of them form a precipitate of metallic silver when Tollens
a. Propanal and formic acid
b. Propanol and formic acid
c. Acetic acid and formic acid
d. Ethanol and formic acid
e. Propanal and acetic acid
178. Interferons are natural antiviral and antitumor agents. What is their mechanism of action?
a. Repair activation
b. Replication activation
c. Transcription activation
d. Protein synthesis increase
e. Protein synthesis depression
179. Interferons are natural antiviral and antitumor agents. What is their mechanism of action?
a. Transcription activation
b. Replication activation
c. Repair activation
d. Protein synthesis increase
e. Protein synthesis depression
180. Isotonicity is one of the requirements for infusion solutions. What aqueous salt solution is us
a. 10% solution of NaCl
b. 4.5-5.0% glucose solution
c. 10% solution of CaCl_2
d. 0.85-0.90% solution of NaCl
e. 0.9% solution of MgCl_2
181. Isotonicity is one of the requirements for infusion solutions. What aqueous salt solution is us
a. 4.5-5.0% glucose solution
b. 0.85-0.90% solution of NaCl
c. 10% solution of NaCl
d. 0.9% solution of MgCl_2
e. 10% solution of CaCl_2
182. Many serological reactions require strictly aseptic conditions. What method of sterilization is
a. Pasteurization
b. Calcination
c. Filtration
d. Dry heat
e. Tyndallization
183. Many serological reactions require strictly aseptic conditions. What method of sterilization is
a. Tyndallization
b. Pasteurization
c. Calcination
d. Filtration
e. Dry heat
184. Microscopy of the smears obtained from the coating on the patient's tonsils was stained accordi
a. Diphtheria

b. Tuberculosis
c. Measles
d. Pertussis
e. Influenza
185. Microscopy of the smears obtained from the coating on the patient's tonsils was stained accordi
a. Influenza
b. Diphtheria
c. Measles
d. Pertussis
e. Tuberculosis
186. Microscopy shows that basidia with basidiospores are formed on the hymenium. What division do t
a. Chytridiomycota
b. Basidiomycota
c. Ascomycota
d. Lychenophyta
e. Zygomycota
187. Microscopy shows that basidia with basidiospores are formed on the hymenium. What division do t
a. Chytridiomycota
b. Lychenophyta
c. Ascomycota
d. Zygomycota
e. Basidiomycota
188. Name the ability of high-molecular compounds to prevent precipitation of lyophobic sols and dep
a. Coacervation
b. Thixotropy
c. Sedimentation
d. Colloid protection
e. Coagulation
189. Name the ability of high-molecular compounds to prevent precipitation of lyophobic sols and dep
a. Sedimentation
b. Coacervation
c. Colloid protection
d. Thixotropy
e. Coagulation
190. On X-ray examination of the 59-year-old patient, in the lower lobe of the right lung there was
a. Metastasis
b. Infiltrating growth
c. Cancer cachexia
d. Invasion in surrounding tissues
e. Expansive growth
191. One hour after a child took polyvitamins in the dosage form of a syrup, the child developed a m
a. Anaphylactic
b. Immune complex
c. Delayed-type hypersensitivity
d. Autoallergic
e. Cytotoxic
192. One hour after a child took polyvitamins in the dosage form of a syrup, the child developed a m
a. Cytotoxic
b. Immune complex
c. Anaphylactic
d. Delayed-type hypersensitivity
e. Autoallergic
193. Osmotic pressure is an important characteristic of biological fluids. Semipermeable membranes a
a. Collodion film
b. Glass

c. Gelatine
d. Biological membrane
e. Parchment
194. Osmotic pressure is an important characteristic of biological fluids. Semipermeable membranes a
a. Parchment
b. Gelatine
c. Biological membrane
d. Collodion film
e. Glass
195. Pastes are used in medicine to treat skin diseases. What type of disperse systems are they?
a. Suspensions
b. Foams
c. Aerosols
d. Powders
e. Emulsions
196. Pastes are used in medicine to treat skin diseases. What type of disperse systems are they?
a. Aerosols
b. Foams
c. Powders
d. Suspensions
e. Emulsions
197. Pathogenic bacteria in the human body can form structures that protect them from phagocytosis.
a. Capsule
b. Mesosomes
c. Flagella
d. Inclusions
e. Spores
198. Pathogenic bacteria in the human body can form structures that protect them from phagocytosis.
a. Flagella
b. Inclusions
c. Spores
d. Capsule
e. Mesosomes
199. People, who were indoors during a fire, suffer from a carbon monoxide poisoning. What type of h
a. Hemic hypoxia
b. Tissue hypoxia
c. Respiratory hypoxia
d. Circulatory hypoxia
e. Hypoxic hypoxia
200. People, who were indoors during a fire, suffer from a carbon monoxide poisoning. What type of h
a. Tissue hypoxia
b. Hemic hypoxia
c. Circulatory hypoxia
d. Hypoxic hypoxia
e. Respiratory hypoxia
201. Plantago major inflorescence grows at the apex, its rachis is long, with sessile flowers. Name
a. Spike
b. Thyrse
c. Capitulum
d. Spadix
e. Panicle
202. Plantago major inflorescence grows at the apex, its rachis is long, with sessile flowers. Name
a. Panicle
b. Thyrse
c. Capitulum

d. Spadix
e. Spike
203. Preparations of colloid silver -- Protargol (silver proteinate) and Collargol (colloid silver)
a. Increased storage time
b. Improved preparation technology
c. Protection of colloid solution against coagulation
d. Increased bactericidal action of \\ silver
e. Decreased side effects
204. Preparations of colloid silver -- Protargol (silver proteinate) and Collargol (colloid silver)
a. Increased storage time
b. Improved preparation technology
c. Decreased side effects
d. Increased bactericidal action of \\ silver
e. Protection of colloid solution against coagulation
205. Preventive examination revealed an enlargement of the patient's thyroid gland, exophthalmos, hi
a. Cortisol
b. Testosterone
c. Glucagon
d. Insulin
e. Thyroxine
206. Preventive examination revealed an enlargement of the patient's thyroid gland, exophthalmos, hi
a. Testosterone
b. Insulin
c. Cortisol
d. Glucagon
e. Thyroxine
207. Proteins are the catalysts of biochemical processes. What type of homogeneous catalysis include
a. Enzyme catalysis
b. Gas-phase homogeneous catalysis
c. Coordination catalysis
d. Acid-base catalysis
e. Redox catalysis
208. Proteins are the catalysts of biochemical processes. What type of homogeneous catalysis include
a. Gas-phase homogeneous catalysis
b. Acid-base catalysis
c. Coordination catalysis
d. Enzyme catalysis
e. Redox catalysis
209. Reaction of sodium ions with potassium hexahydroxoantimonate (V) in a neutral medium produces p
a. Green
b. Red
c. Blue
d. White
e. Yellow
210. Reaction of sodium ions with potassium hexahydroxoantimonate (V) in a neutral medium produces p
a. Red
b. Yellow
c. Green
d. White
e. Blue
211. Rhizome of a species belonging to the Asteraceae family is polycephalous, succulent, has lysige
a. Digitalis grandiflora
b. Inula helenium
c. Sorbus aucuparia
d. Hyoscyamus niger

e. Helianthus annuus
212. Rhizome of a species belonging to the Asteraceae family is polycephalous, succulent, has lysige
a. Hyoscyamus niger
b. Inula helenium
c. Digitalis grandiflora
d. Helianthus annuus
e. Sorbus aucuparia
213. Salts and esters of oxalic acid are called:
a. Oxalates
b. Adipinates
c. Malonates
d. Urates
e. Succinates
214. Salts and esters of oxalic acid are called:
a. Adipinates
b. Malonates
c. Oxalates
d. Succinates
e. Urates
215. Sclerenchyma fibers, formed by procambium or parenchyma around vascular bundles or secretory ca
a. Cortical fibers
b. Perivascular fibers
c. Phloem fibers
d. Xylem fibers
e. Pericyclic fibers
216. Sclerenchyma fibers, formed by procambium or parenchyma around vascular bundles or secretory ca
a. Cortical fibers
b. Xylem fibers
c. Phloem fibers
d. Perivascular fibers
e. Pericyclic fibers
217. Select a nucleophile among the particles and molecules given below.
a. NO_2^+
b. ddotNH_3
c. H^+
d. AlCl_3
e. CH_3Cl
218. Select a nucleophile among the particles and molecules given below.
a. NO_2^+
b. CH_3Cl
c. ddotNH_3
d. AlCl_3
e. H^+
219. Select ketose from the monosaccharides listed below:
a. Arabinose
b. Ribose
c. Fructose
d. Mannose
e. Glucose
220. Select ketose from the monosaccharides listed below:
a. Mannose
b. Fructose
c. Glucose
d. Arabinose
e. Ribose

221. Select the halogenated antiseptic that would be preferable for a child to pack in the first aid
a. Iodine alcoholic solution
b. Copper sulfate
c. Methylene blue
d. Brilliant green
e. Formaldehyde solution
222. Select the halogenated antiseptic that would be preferable for a child to pack in the first aid
a. Methylene blue
b. Brilliant green
c. Copper sulfate
d. Formaldehyde solution
e. Iodine alcoholic solution
223. Serology is the leading method of syphilis diagnostics. What test is used to diagnose this dise
a. Gruber test
b. Wassermann test
c. Wright test
d. Haddelson test
e. Widal test
224. Serology is the leading method of syphilis diagnostics. What test is used to diagnose this dise
a. Gruber test
b. Haddelson test
c. Widal test
d. Wassermann test
e. Wright test
225. Streptomycin like other aminoglycosides, by binding to the 30S subunit of ribosomes, prevents t
a. Replication initiation
b. Transcription termination
c. Translation termination
d. Translation initiation
e. Transcription initiation
226. Streptomycin like other aminoglycosides, by binding to the 30S subunit of ribosomes, prevents t
a. Transcription termination
b. Replication initiation
c. Transcription initiation
d. Translation termination
e. Translation initiation
227. Sulfanilamides contain a primary aromatic amino group in their structure. What method is used f
a. Nitritometry
b. Dichromatometry
c. Iodometry
d. Cerimetry
e. Permanganatometry
228. Sulfanilamides contain a primary aromatic amino group in their structure. What method is used f
a. Nitritometry
b. Iodometry
c. Cerimetry
d. Permanganatometry
e. Dichromatometry
229. Surfactants are compounds that lower the surface tension (or interfacial tension) between two l
a. Urea
b. Valeric acid
c. HCl
d. ---
e. $NaOH$
230. Surfactants are compounds that lower the surface tension (or interfacial tension) between two l

a. Urea
b. $NaOH$
c. Valeric acid
d. ---
e. HCl
231. Synthesis of a medicinal substance occurs in an isolated system. What is a direction criterion
a. Entropy change
b. Gibbs energy
c. Intrinsic energy
d. Helmholtz energy
e. Enthalpy
232. Synthesis of a medicinal substance occurs in an isolated system. What is a direction criterion
a. Enthalpy
b. Intrinsic energy
c. Entropy change
d. Helmholtz energy
e. Gibbs energy
233. The bacterial culture obtained from a patient does not grow when exposed to oxygen. Conditions
a. Krotov apparatus
b. Oxidative medium
c. Anaerobic culture jar
d. Pasteur oven
e. Serum-supplemented medium
234. The bacterial culture obtained from a patient does not grow when exposed to oxygen. Conditions
a. Oxidative medium
b. Serum-supplemented medium
c. Pasteur oven
d. Anaerobic culture jar
e. Krotov apparatus
235. The biological study of spores and pollen revealed tetrahedral spores with a semi-circular base
a. Lycopodiophyta
b. Bryophyta
c. Equisetiphyta
d. Pinophyta
e. Polypodiophyta
236. The biological study of spores and pollen revealed tetrahedral spores with a semi-circular base
a. Bryophyta
b. Lycopodiophyta
c. Pinophyta
d. Equisetiphyta
e. Polypodiophyta
237. The fruit is a bright-red juicy follicetum with a sweet-sour taste. Its seeds are kidney-shaped
a. Schisandra chinensis
b. Sorbus aucuparia
c. Viburnum opulus
d. Malus domestica
e. Citrus limon
238. The fruit is a bright-red juicy follicetum with a sweet-sour taste. Its seeds are kidney-shaped
a. Malus domestica
b. Schisandra chinensis
c. Citrus limon
d. Viburnum opulus
e. Sorbus aucuparia
239. The main mechanism of ammonia neutralization in the body is the biosynthesis of urea. The cycle
a. Argininosuccinate

b. Fumaric acid
c. Carbamoyl phosphate
d. Arginine
e. Citrulline
240. The main mechanism of ammonia neutralization in the body is the biosynthesis of urea. The cycle
a. Citrulline
b. Carbamoyl phosphate
c. Arginine
d. Argininosuccinate
e. Fumaric acid
241. The majority of live vaccines are made from microbes with reduced virulence. What is the name o
a. Attenuated vaccines
b. Denatured vaccines
c. Adjuvant vaccines
d. Anatoxin vaccines
e. Adsorbed vaccines
242. The majority of live vaccines are made from microbes with reduced virulence. What is the name o
a. Adsorbed vaccines
b. Attenuated vaccines
c. Adjuvant vaccines
d. Anatoxin vaccines
e. Denatured vaccines
243. The mechanism of action of hormones depends on their chemical nature. What hormones can penetra
a. Steroid and thyroid hormones
b. Oxytocin and vasopressin
c. Catecholamines
d. Tropic hormones
e. Insulin and glucagon
244. The mechanism of action of hormones depends on their chemical nature. What hormones can penetra
a. Catecholamines
b. Oxytocin and vasopressin
c. Steroid and thyroid hormones
d. Tropic hormones
e. Insulin and glucagon
245. The method consisting in removal of low-molecular impurities from colloidal systems and high-mo
a. Electrodialysis
b. Compensatory dialysis
c. Decantation
d. Dialysis
e. Ultrafiltration
246. The method consisting in removal of low-molecular impurities from colloidal systems and high-mo
a. Electrodialysis
b. Decantation
c. Compensatory dialysis
d. Ultrafiltration
e. Dialysis
247. The patient is presented to the hospital with the phenomena of growing respiratory failure. He
a. Obstructive
b. Peripheral
c. Restrictive
d. Thoracic diaphragm
e. Central
248. The patient is presented to the hospital with the phenomena of growing respiratory failure. He
a. Obstructive
b. Thoracic diaphragm

c. Central
d. Peripheral
e. Restrictive
249. The patient, who suffers from rheumatoid arthritis and concomitant duodenal ulcer should be pre
a. Diclofenac sodium
b. Celecoxib
c. Acetylsalicylic acid
d. Paracetamol
e. Metamizole
250. The patient, who suffers from rheumatoid arthritis and concomitant duodenal ulcer should be pre
a. Diclofenac sodium
b. Metamizole
c. Paracetamol
d. Celecoxib
e. Acetylsalicylic acid
251. The presence of antibodies to HIV has been established in the analyzed serum by means of enzyme
a. Biological method
b. Immunofluorescence
c. Bacteriological method
d. Virological method
e. Immunoblotting
252. The presence of antibodies to HIV has been established in the analyzed serum by means of enzyme
a. Biological method
b. Immunofluorescence
c. Virological method
d. Bacteriological method
e. Immunoblotting
253. The researcher while conducting the qualitative analysis that involves sulfates precipitation o
a. Chloroform
b. Benzene
c. Ethyl alcohol
d. Distilled water
e. Amyl alcohol
254. The researcher while conducting the qualitative analysis that involves sulfates precipitation o
a. Chloroform
b. Distilled water
c. Benzene
d. Ethyl alcohol
e. Amyl alcohol
255. The second stage of detoxification involves joining certain chemical compounds with functional
a. Higher fatty acids
b. Cholesterol
c. Glucose
d. Glucuronic acid
e. Pyruvate
256. The second stage of detoxification involves joining certain chemical compounds with functional
a. Pyruvate
b. Glucuronic acid
c. Glucose
d. Cholesterol
e. Higher fatty acids
257. The student is studying a plant organ with radial symmetry, unlimited growth and positive geotr
a. Leaf
b. Root
c. Stem

d. Rhizome
e. Seed
258. The student is studying a plant organ with radial symmetry, unlimited growth and positive geotr
a. Rhizome
b. Leaf
c. Seed
d. Stem
e. Root
259. The therapeutic properties of activated charcoal are due to its large specific surface area. Na
a. Adhesion
b. Desorption
c. Cohesion
d. Adsorption
e. Recuperation
260. The therapeutic properties of activated charcoal are due to its large specific surface area. Na
a. Recuperation
b. Adsorption
c. Adhesion
d. Desorption
e. Cohesion
261. The third analitycal group of cations (acid-base classification) includes Ca^{2+, Sr^{2+,
a. $HClO_4$
b. HNO_3
c. HCl
d. CH_3COOH
e. H_2SO_4
262. The third analitycal group of cations (acid-base classification) includes Ca^{2+, Sr^{2+,
a. HNO_3
b. $HClO_4$
c. HCl
d. H_2SO_4
e. CH_3COOH
263. The type of bacterial respiration is of great importance for the growth and reproduction of bac
a. Obligate aerobes
b. Obligate anaerobes
c. Macroaerophiles
d. Facultative anaerobes
e. Microaerophiles
264. The type of bacterial respiration is of great importance for the growth and reproduction of bac
a. Obligate aerobes
b. Macroaerophiles
c. Facultative anaerobes
d. Obligate anaerobes
e. Microaerophiles
265. There are certain patterns of chemical and biological processes occurring with the drug in the
a. Pharmacodynamic incompatibility
b. Functional antagonism
c. Pharmaceutical incompatibility
d. Synergism
e. Pharmacokinetic incompatibility
266. There are certain patterns of chemical and biological processes occurring with the drug in the
a. Synergism
b. Pharmaceutical incompatibility
c. Pharmacodynamic incompatibility
d. Functional antagonism

e. Pharmacokinetic incompatibility
267. Thiocyanatometric titration method requires secondary standard solution of potassium thiocyanat
a. Iron (II) sulfate
b. Copper (II) nitrate
c. Silver nitrate
d. Sulfuric acid
e. Hydrochloric acid
268. Thiocyanatometric titration method requires secondary standard solution of potassium thiocyanat
a. Sulfuric acid
b. Silver nitrate
c. Iron (II) sulfate
d. Copper (II) nitrate
e. Hydrochloric acid
269. To assess the bacterial contamination of the soil, where humans or animals are the source of co
a. Clostridium perfringens
b. Pseudomonas aeruginosa
c. Salmonella enteritidis
d. Streptococcus faecalis
e. Escherichia coli
270. To assess the bacterial contamination of the soil, where humans or animals are the source of co
a. Pseudomonas aeruginosa
b. Streptococcus faecalis
c. Salmonella enteritidis
d. Clostridium perfringens
e. Escherichia coli
271. To determine the qualitative content of a drug, a sample of the analyte solution was processed
a. Mercury(II) cations
b. Silver(I) cations
c. Lead(II) cations
d. Tin(II) cations
e. Mercury(I) cations
272. To determine the qualitative content of a drug, a sample of the analyte solution was processed
a. Mercury(II) cations
b. Silver(I) cations
c. Tin(II) cations
d. Mercury(I) cations
e. Lead(II) cations
273. To obtain exotoxins of some microorganisms, these microorganisms are inoculated into liquid nut
a. Autoclaving
b. Bacteria-excluding filters
c. Ultraviolet irradiation
d. Disinfectants (chloramine)
e. Boiling
274. To obtain exotoxins of some microorganisms, these microorganisms are inoculated into liquid nut
a. Boiling
b. Ultraviolet irradiation
c. Disinfectants (chloramine)
d. Autoclaving
e. Bacteria-excluding filters
275. To preserve valuable varietal qualities of peppermint, the optimal method of its propagation wa
a. Leaf cuttings
b. Germinated seeds
c. Plantlets
d. Parts of the tuber
e. Parts of the rhizome

276. To preserve valuable varietal qualities of peppermint, the optimal method of its propagation wa
a. Plantlets
b. Parts of the rhizome
c. Germinated seeds
d. Parts of the tuber
e. Leaf cuttings
277. To stop a fever, the patient was prescribed a centrally acting non-narcotic analgesic that, unl
a. Paracetamol
b. Analgin (Metamizole)
c. Aspirin
d. Indomethacin
e. Nurofen (Ibuprofen)
278. To stop a fever, the patient was prescribed a centrally acting non-narcotic analgesic that, unl
a. Aspirin
b. Indomethacin
c. Nurofen (Ibuprofen)
d. Analgin (Metamizole)
e. Paracetamol
279. To what electrode will the protein particle move during electrophoresis, if its isoelectric poi
a. First to the anode, and then to the cathode
b. There will be no movement
c. To the anode
d. First to the cathode, and then to the anode
e. To the cathode
280. To what electrode will the protein particle move during electrophoresis, if its isoelectric poi
a. To the cathode
b. To the anode
c. There will be no movement
d. First to the anode, and then to the cathode
e. First to the cathode, and then to the anode
281. Total content of chloride, bromide, and iodide ions in the investigated solution can be quantit
a. Potassium dichromate solution
b. Sodium thiosulfate solution
c. Sodium nitrite solution
d. Potassium permanganate solution
e. Silver nitrate solution
282. Total content of chloride, bromide, and iodide ions in the investigated solution can be quantit
a. Sodium nitrite solution
b. Sodium thiosulfate solution
c. Silver nitrate solution
d. Potassium permanganate solution
e. Potassium dichromate solution
283. Total protein in blood serum is one of metabolic indicators. What test is usually used in clini
a. Sodium nitroprusside test
b. Xanthoproteic test
c. Biuret test
d. Lead acetate test
e. Ninhydrin test
284. Total protein in blood serum is one of metabolic indicators. What test is usually used in clini
a. Xanthoproteic test
b. Lead acetate test
c. Biuret test
d. Sodium nitroprusside test
e. Ninhydrin test
285. Under conditions of prolonged intoxication, a significant decrease in the activity of aminoacyl

a. DNA repair
b. Protein biosynthesis
c. RNA processing
d. Genetic recombination
e. DNA replication
286. Under conditions of prolonged intoxication, a significant decrease in the activity of aminoacyl
a. RNA processing
b. Genetic recombination
c. DNA repair
d. DNA replication
e. Protein biosynthesis
287. Various types of immunobiological agents are used for immunoprophylaxis of infectious diseases.
a. Immunotropic
b. Specific active
c. General
d. Specific passive
e. Non-specific
288. Various types of immunobiological agents are used for immunoprophylaxis of infectious diseases.
a. Non-specific
b. Specific passive
c. Specific active
d. General
e. Immunotropic
289. Vitamins can enhance each other's effects, when taken simultaneously. What vitamin potentiates
a. C
b. A
c. D
d. B_1
e. B_2
290. Vitamins can enhance each other's effects, when taken simultaneously. What vitamin potentiates
a. C
b. D
c. B_2
d. A
e. B_1
291. Water samples were received by a bacteriological laboratory for determining their coli index. W
a. Number of coliphages in 1 liter of water
b. Number of enterococci in 1 liter of water
c. Number of Escherichia coli in 1 liter of water
d. Number of staphylococci in 1 liter of water
e. Number of pseudomonads in 1 liter of water
292. Water samples were received by a bacteriological laboratory for determining their coli index. W
a. Number of pseudomonads in 1 liter of water
b. Number of Escherichia coli in 1 liter of water
c. Number of enterococci in 1 liter of water
d. Number of coliphages in 1 liter of water
e. Number of staphylococci in 1 liter of water
293. What adsorbent is used as a suspension to relieve the intoxication caused by alkaloid poisoning
a. Bentonite
b. Kaolin
c. Activated charcoal
d. Starch
e. Silica gel
294. What adsorbent is used as a suspension to relieve the intoxication caused by alkaloid poisoning
a. Starch

b. Activated charcoal
c. Silica gel
d. Kaolin
e. Bentonite
295. What can be used to distinguish formic acid from acetic acid?
a. $[Ag(NH_3)_2]OH$
b. $NaOH$
c. $NaHCO_3$
d. $Br_2 (H_2O)$
e. H_2SO_4
296. What can be used to distinguish formic acid from acetic acid?
a. H_2SO_4
b. $NaHCO_3$
c. $NaOH$
d. $[Ag(NH_3)_2]OH$
e. $Br_2 (H_2O)$
297. What cardiac glycoside is obtained from lily of the valley?
a. Digitoxin
b. Adoniside
c. Celanid (Lanatoside C)
d. Corglycon
e. Strophanthin K
298. What cardiac glycoside is obtained from lily of the valley?
a. Strophanthin K
b. Digitoxin
c. Celanid (Lanatoside C)
d. Adoniside
e. Corglycon
299. What cation can be detected with Chugaiev's agent (Dimethylglyoxime)?
a. Ni^{2+
b. Ca^{2+
c. Mn^{2+
d. Co^{2+
e. K^+
300. What cation can be detected with Chugaiev's agent (Dimethylglyoxime)?
a. Ca^{2+
b. K^+
c. Co^{2+
d. Ni^{2+
e. Mn^{2+
301. What cation of the third analytical group can be precipitated using the group reagent H_2SO_4 o
a. Ba^2+
b. Na^+
c. K^+
d. Ca^2+
e. Sr^2+
302. What cation of the third analytical group can be precipitated using the group reagent H_2SO_4 o
a. Sr^2+
b. Ca^2+
c. Na^+
d. Ba^2+
e. K^+
303. What cations belong to the IV analytical group according to the acid-base classification?
a. Aluminum, zinc, chromium(II), tin(II), tin(IV), arsenic(III), arsenic(V)
b. Magnesium, calcium, strontium, barium

c. Silver, lead, nickel, potassium, barium, bismuth
d. Sodium, potassium, ammonium, silver, lead
e. Calcium, strontium, barium, potassium, bismuth
304. What cations belong to the IV analytical group according to the acid-base classification?
a. Aluminum, zinc, chromium(II), tin(II), tin(IV), arsenic(III), arsenic(V)
b. Silver, lead, nickel, potassium, barium, bismuth
c. Sodium, potassium, ammonium, silver, lead
d. Magnesium, calcium, strontium, barium
e. Calcium, strontium, barium, potassium, bismuth
305. What common property of cation compounds Al^{3+, Zn^{2+, Cr^{3+, Sn^{2+ unites them
a. Insolubility of salts in water
b. Amphotericity of hydroxides
c. Solubility of hydroxides in an excess ammonia solution
d. Good solubility of some salts
e. Solubility of hydroxides in acids
306. What common property of cation compounds Al^{3+, Zn^{2+, Cr^{3+, Sn^{2+ unites them
a. Solubility of hydroxides in an excess ammonia solution
b. Insolubility of salts in water
c. Amphotericity of hydroxides
d. Solubility of hydroxides in acids
e. Good solubility of some salts
307. What drug has a hypoglycemic effect due to stimulation of pancreatic beta cells?
a. Prednisolone
b. Glibenclamide
c. Heparin
d. Retabolil (nandrolone)
e. Adrenaline hydrochloride (epinephrine)
308. What drug has a hypoglycemic effect due to stimulation of pancreatic beta cells?
a. Retabolil (nandrolone)
b. Glibenclamide
c. Adrenaline hydrochloride (epinephrine)
d. Prednisolone
e. Heparin
309. What drug inhibits cholesterol synthesis in the liver?
a. Parmidinum
b. Colestipol
c. Atorvastatin
d. Fenofibrate
e. Probucol
310. What drug inhibits cholesterol synthesis in the liver?
a. Parmidinum
b. Probucol
c. Atorvastatin
d. Colestipol
e. Fenofibrate
311. What drug is a non-selective beta-blocker?
a. Prozerin (Neostigmine)
b. Atropine
c. Adrenaline hydrochloride
d. Metoprolol
e. Anaprilin (Propranolol)
312. What drug is a non-selective beta-blocker?
a. Prozerin (Neostigmine)
b. Metoprolol
c. Atropine

d. Adrenaline hydrochloride
e. Anaprilin (Propranolol)
313. What drug should be prescribed to a patient with bronchospasm?
a. Insulin
b. Oxytocin
c. Vicasol (Menadione)
d. Bisacodyl
e. Salbutamol
314. What drug should be prescribed to a patient with bronchospasm?
a. Vicasol (Menadione)
b. Insulin
c. Salbutamol
d. Bisacodyl
e. Oxytocin
315. What drug should not be prescribed for the treatment of arterial hypertension in a patient with
a. Hydrochlorothiazide
b. Cozaar (Losartan)
c. Enalapril
d. Atenolol
e. Amlodipine
316. What drug should not be prescribed for the treatment of arterial hypertension in a patient with
a. Enalapril
b. Cozaar (Losartan)
c. Amlodipine
d. Atenolol
e. Hydrochlorothiazide
317. What enzyme allows for synthesys of various genes from template RNA to DNA in genetic engineeri
a. DNA-ligase
b. Exonuclease
c. Reverse transcriptase
d. Endonuclease
e. Helicase
318. What enzyme allows for synthesys of various genes from template RNA to DNA in genetic engineeri
a. Exonuclease
b. Endonuclease
c. Helicase
d. DNA-ligase
e. Reverse transcriptase
319. What family of viruses has a unique reverse transcriptase enzyme?
a. Flaviviruses
b. Picornaviruses
c. Retroviruses
d. Reoviruses
e. Togaviruses
320. What family of viruses has a unique reverse transcriptase enzyme?
a. Togaviruses
b. Flaviviruses
c. Reoviruses
d. Retroviruses
e. Picornaviruses
321. What has an effect on the coagulating action of the coagulant ion, according to the Schulze-Har
a. Ionic charge
b. Adsorbability
c. Polarization
d. Hydration ability

e. Ionic size
322. What has an effect on the coagulating action of the coagulant ion, according to the Schulze-Har
a. Polarization
b. Hydration ability
c. Ionic charge
d. Adsorbability
e. Ionic size
323. What hormonal drug is used in cases of atonic uterine bleeding?
a. Prednisolone
b. Progesterone
c. Oxytocin
d. L-thyroxine
e. Insulin
324. What hormonal drug is used in cases of atonic uterine bleeding?
a. Progesterone
b. Oxytocin
c. L-thyroxine
d. Insulin
e. Prednisolone
325. What indicator is used, when sodium carbonate is being quantified in the preparation by means o
a. Diphenylamine
b. Methyl orange
c. Murexide
d. Methylene blue
e. Ferroin
326. What indicator is used, when sodium carbonate is being quantified in the preparation by means o
a. Diphenylamine
b. Ferroin
c. Methylene blue
d. Murexide
e. Methyl orange
327. What is the mechanism of action of beta-lactam antibiotics?
a. Inhibition of DNA gyrase
b. Inhibition of cytoplasmic \\ membrane synthesis
c. Inhibition of protein synthesis \\ in ribosomes
d. Disruption of DNA synthesis
e. Inhibition of cell wall synthesis
328. What is the mechanism of action of beta-lactam antibiotics?
a. Inhibition of cytoplasmic \\ membrane synthesis
b. Disruption of DNA synthesis
c. Inhibition of DNA gyrase
d. Inhibition of cell wall synthesis
e. Inhibition of protein synthesis \\ in ribosomes
329. What is the most common side effect of inhaled corticosteroids?
a. Osteoporosis
b. Increased body mass
c. Arterial hypertension
d. Oropharyngeal candidiasis
e. Subcapsular cataract
330. What is the most common side effect of inhaled corticosteroids?
a. Osteoporosis
b. Subcapsular cataract
c. Oropharyngeal candidiasis
d. Arterial hypertension
e. Increased body mass

331. What is the vapor pressure of a liquid at its boiling point?
a. Maximum
b. Equal to saturated vapor pressure at 273 K
c. Equal to atmospheric pressure
d. Minimum
e. Equal to saturated vapor pressure at room temperature
332. What is the vapor pressure of a liquid at its boiling point?
a. Maximum
b. Equal to saturated vapor pressure at room temperature
c. Equal to atmospheric pressure
d. Equal to saturated vapor pressure at 273 K
e. Minimum
333. What pair of compounds can be classified as functional group isomers?
a. Benzene and methylbenzene
b. Propanal and propanone
c. Butane and isobutane
d. Hexane and cyclohexane
e. Pentene-1 and pentene-2
334. What pair of compounds can be classified as functional group isomers?
a. Hexane and cyclohexane
b. Propanal and propanone
c. Butane and isobutane
d. Benzene and methylbenzene
e. Pentene-1 and pentene-2
335. What parameter takes into account the deviation of the properties of a real solution from an id
a. Degree of dissociation
b. Concentration
c. Fugacity
d. Isotonic coefficient
e. Activity
336. What parameter takes into account the deviation of the properties of a real solution from an id
a. Isotonic coefficient
b. Degree of dissociation
c. Concentration
d. Activity
e. Fugacity
337. What pharmacological effect of diazepam allows using it in the treatment of neuroses?
a. Analgesic
b. Diuretic
c. Anxiolytic
d. Antidepressant
e. Antipyretic
338. What pharmacological effect of diazepam allows using it in the treatment of neuroses?
a. Antidepressant
b. Anxiolytic
c. Diuretic
d. Analgesic
e. Antipyretic
339. What physico-chemical method is used to determine the pH of solutions for injections?
a. Potentiometry
b. Electrolysis
c. Conductometry
d. Polarography
e. Amperometry
340. What physico-chemical method is used to determine the pH of solutions for injections?

a. Amperometry
b. Potentiometry
c. Polarography
d. Electrolysis
e. Conductometry
341. What reaction can be classified as a pseudo-first-order reaction?
a. Etherification
b. Saponification
c. Neutralization
d. Hydrolysis of sucrose
e. Combustion
342. What reaction can be classified as a pseudo-first-order reaction?
a. Saponification
b. Combustion
c. Etherification
d. Neutralization
e. Hydrolysis of sucrose
343. What reaction occurs according to the free-radical (SR) mechanism?
a. $CH_3CH_2OH+HCl$
b. $C_2H_6+Cl_2$
c. $C_6H_6+Cl_2$
d. $CH_3–CH_3+O_2$
e. $CH_2=CH_2+Cl_2$
344. What reaction occurs according to the free-radical (SR) mechanism?
a. $CH_3CH_2OH+HCl$
b. $C_6H_6+Cl_2$
c. $C_2H_6+Cl_2$
d. $CH_3–CH_3+O_2$
e. $CH_2=CH_2+Cl_2$
345. What reagent can be used to distinguish maltose (a reducing disaccharide) from sucrose (a non-r
a. Br_2
b. $FeCl_3$
c. Tollens reagent
d. $NaOH$
e. $K_4[Fe(CN_6)]$
346. What reagent can be used to distinguish maltose (a reducing disaccharide) from sucrose (a non-r
a. $K_4[Fe(CN_6)]$
b. Tollens reagent
c. Br_2
d. $FeCl_3$
e. $NaOH$
347. What reagents produce a reaction that follows the free radical (SR) mechanism?
a. Benzene and chlorine in the presence of $AlCl_3$
b. Ethylene and chlorine
c. Ethane and chlorine in the light
d. Ethanol and hydrogen chloride
e. Ethane and oxygen
348. What reagents produce a reaction that follows the free radical (SR) mechanism?
a. Ethane and oxygen
b. Ethane and chlorine in the light
c. Ethanol and hydrogen chloride
d. Ethylene and chlorine
e. Benzene and chlorine in the presence of $AlCl_3$
349. What reference electrode can be used in the potentiometric analysis of a medicinal substance?
a. Silver chloride electrode

b. Quinhydrone electrode
c. Zinc electrode
d. Antimony electrode
e. Glass electrode
350. What reference electrode can be used in the potentiometric analysis of a medicinal substance?
a. Glass electrode
b. Silver chloride electrode
c. Antimony electrode
d. Quinhydrone electrode
e. Zinc electrode
351. What solution is used to determine the mass-volume fraction of ammonia in a solution?
a. Iodine solution
b. Hydrochloric acid solution
c. Sulfuric acid solution
d. Sodium hydroxide solution
e. Potassium permanganate solution
352. What solution is used to determine the mass-volume fraction of ammonia in a solution?
a. Sodium hydroxide solution
b. Hydrochloric acid solution
c. Iodine solution
d. Sulfuric acid solution
e. Potassium permanganate solution
353. What stage of chronic renal failure can be characterized by metabolic acidosis, azotemia, itchi
a. Nephrotic syndrome
b. Tubulopathy
c. Uremia
d. Acute renal failure
e. Renal colic
354. What stage of chronic renal failure can be characterized by metabolic acidosis, azotemia, itchi
a. Renal colic
b. Nephrotic syndrome
c. Uremia
d. Acute renal failure
e. Tubulopathy
355. What substance is used as an indicator in the back titration of an aqueous solution of acetic a
a. Diphenylcarbazone
b. Phenolphthalein
c. Murexide
d. Eriochrome black T
e. Diphenylamine
356. What substance is used as an indicator in the back titration of an aqueous solution of acetic a
a. Diphenylcarbazone
b. Diphenylamine
c. Murexide
d. Phenolphthalein
e. Eriochrome black T
357. What substances can be determined by means of substitution titration using the iodometric metho
a. Strong oxidizing agents
b. Unsaturated hydrocarbons
c. Saturated hydrocarbons
d. Weak reducing agents
e. Strong reducing agents
358. What substances can be determined by means of substitution titration using the iodometric metho
a. Strong reducing agents
b. Unsaturated hydrocarbons

c. Weak reducing agents
d. Strong oxidizing agents
e. Saturated hydrocarbons
359. What tissue can be characterized by permeable cells located within the root of the primary stru
a. Endodermis
b. Mesodermis
c. Central axial cylinder
d. Pericycle
e. Exodermis
360. What tissue can be characterized by permeable cells located within the root of the primary stru
a. Central axial cylinder
b. Endodermis
c. Mesodermis
d. Pericycle
e. Exodermis
361. What titrimetric method of analysis uses both external and internal indicators?
a. Alkalimetry
b. Permanganatometry
c. Nitritometry
d. Argentometry
e. Complexonometry
362. What titrimetric method of analysis uses both external and internal indicators?
a. Argentometry
b. Alkalimetry
c. Nitritometry
d. Permanganatometry
e. Complexonometry
363. What transformation is accompanied by an increase in entropy?
a. NH_4-NO_2-(solid) = N_2(gas) + 2H_2O(gas)
b. C_2H_2(gas) + H_2(gas) = C_2H_4(gas)
c. N_2(gas) + O_2(gas) = 2NO(gas)
d. 2H_2S (gas) + 3O_2(gas) = 2SO_2(gas) + 2H_2O(gas)
e. CaO(solid) + CO_2(gas) = CaCO_3(solid)
364. What transformation is accompanied by an increase in entropy?
a. N_2(gas) + O_2(gas) = 2NO(gas)
b. CaO(solid) + CO_2(gas) = CaCO_3(solid)
c. NH_4-NO_2-(solid) = N_2(gas) + 2H_2O(gas)
d. 2H_2S (gas) + 3O_2(gas) = 2SO_2(gas) + 2H_2O(gas)
e. C_2H_2(gas) + H_2(gas) = C_2H_4(gas)
365. What type of cardiac arrhythmia occurs as a result of simultaneous disruption of excitability a
a. Sinus tachycardia
b. Atrial fibrillation
c. Respiratory arrhythmia
d. Extrasystole
e. Atrioventricular block
366. What type of fruit is characteristic of Atropa belladonna?
a. Berry
b. Hesperidium
c. Capsule
d. Silique
e. Legume
367. What type of fruit is characteristic of Atropa belladonna?
a. Hesperidium
b. Capsule
c. Legume

d. Berry
e. Silique
368. What type of indicators is used in the acid-base method of quantitative analysis?
a. Chemiluminescent indicators
b. pH indicators
c. Redox indicators
d. Metallochromic indicators
e. Adsorption indicators
369. What type of indicators is used in the acid-base method of quantitative analysis?
a. Chemiluminescent indicators
b. Metallochromic indicators
c. Redox indicators
d. pH indicators
e. Adsorption indicators
370. What value determines the degree to which foreign ions can influence the potential of an ion-se
a. Selectivity coefficient
b. Electrical conductivity \\ coefficient
c. Diffusion coefficient
d. Activity coefficient
e. Osmotic coefficient
371. What value determines the degree to which foreign ions can influence the potential of an ion-se
a. Diffusion coefficient
b. Osmotic coefficient
c. Electrical conductivity \\ coefficient
d. Activity coefficient
e. Selectivity coefficient
372. When a galvanic cell operates under standard conditions, the chemical energy of the redox proce
a. Mechanical energy
b. Electromagnetic energy
c. Electrical energy
d. Thermal energy
e. Nuclear energy
373. When a galvanic cell operates under standard conditions, the chemical energy of the redox proce
a. Thermal energy
b. Nuclear energy
c. Electrical energy
d. Mechanical energy
e. Electromagnetic energy
374. When harvesting herbal raw material of calendula and chamomile, their inflorescences are being
a. Round capitulum
b. Umbel
c. Spike
d. Corymb
e. Flat capitulum
375. When harvesting herbal raw material of calendula and chamomile, their inflorescences are being
a. Umbel
b. Flat capitulum
c. Spike
d. Round capitulum
e. Corymb
376. Which compound of those listed below is an alicyclic hydrocarbon?
a. Cyclohexene
b. Phenanthrene
c. Anthracene
d. Benzene

e. Naphthalene
377. Which compound of those listed below is an alicyclic hydrocarbon?
a. Anthracene
b. Cyclohexene
c. Benzene
d. Phenanthrene
e. Naphthalene
378. Which of the listed plants is a bush with imparipinnate leaves, decussate leaf arrangement, and
a. Chelidonium majus
b. Sambucus nigra
c. Ledum palustre
d. Arctostaphylos uva-ursi
e. Urtica dioica
379. Which of the listed plants is a bush with imparipinnate leaves, decussate leaf arrangement, and
a. Urtica dioica
b. Chelidonium majus
c. Ledum palustre
d. Arctostaphylos uva-ursi
e. Sambucus nigra
380. Which of the listed species of medicinal plants is considered to be a weed?
a. Plantago major
b. Salvia officinalis
c. Mentha piperita
d. Convallaria majalis
e. Papaver somniferum
381. Which of the listed species of medicinal plants is considered to be a weed?
a. Mentha piperita
b. Salvia officinalis
c. Plantago major
d. Convallaria majalis
e. Papaver somniferum
382. Which one of the listed compounds belongs to conjugated dienes?
a. CH_2=CH-C(CH_3)_2-CH=CH_2
b. CH_2=CH-CH_2-CH=CH_2
c. CH_2=C=CH-CH_2-CH_3
d. CH_2=CH-CH=CH-CH_3
e. CH_2=C=CH_2
383. Which one of the listed compounds belongs to conjugated dienes?
a. CH_2=CH-CH_2-CH=CH_2
b. CH_2=CH-C(CH_3)_2-CH=CH_2
c. CH_2=C=CH-CH_2-CH_3
d. CH_2=C=CH_2
e. CH_2=CH-CH=CH-CH_3
384. You are studying the silvery downy plant of Asteraceae family, which is rich with essential oil
a. Artemisia absinthium
b. Arctium lappa
c. Bidens tripartita
d. Calendula officinalis
e. Chamomilla recutita
385. You are studying the silvery downy plant of Asteraceae family, which is rich with essential oil
a. Chamomilla recutita
b. Arctium lappa
c. Bidens tripartita
d. Artemisia absinthium
e. Calendula officinalis

386. В яких структурах рослинних клітин накопичується вторинний крохмаль?
a. Мітохондріях
b. Амілопластах
c. Олеопластах
d. Протеопластах
e. Вакуолях
387. В яких структурах рослинних клітин накопичується вторинний крохмаль?
a. Мітохондріях
b. Вакуолях
c. Олеопластах
d. Протеопластах
e. Амілопластах
388. Від якого показника залежть коагулююча здатність електроліту?
a. Об’єму золю
b. Густини золю
c. Концентрації електроліту
d. Заряду іона-коагулятора
e. Ступеня дисперсності золю
389. Від якого показника залежть коагулююча здатність електроліту?
a. Ступеня дисперсності золю
b. Об’єму золю
c. Густини золю
d. Заряду іона-коагулятора
e. Концентрації електроліту
390. Для представників якої родини характерні такі ознаки: плівчасті прилистки зростаються в розтруб
a. Brassicaceae
b. Rosaceae
c. Lamiaceae
d. Fabaceae
e. Polygonaceae
391. Для представників якої родини характерні такі ознаки: плівчасті прилистки зростаються в розтруб
a. Lamiaceae
b. Rosaceae
c. Fabaceae
d. Polygonaceae
e. Brassicaceae
392. Для яких систем характерна седиментація?
a. Розчинів неелектролітів
b. Суспензій
c. Розчинів електролітів
d. Розчинів ВМР
e. Золів
393. Для яких систем характерна седиментація?
a. Розчинів неелектролітів
b. Розчинів ВМР
c. Суспензій
d. Розчинів електролітів
e. Золів
394. До якого виду хроматогафії відносять метод газорідинної хроматографії?
a. Розподільної
b. Гель-хроматографії
c. Адсорбційної
d. Іоннобмінної
e. Афінної
395. До якого виду хроматогафії відносять метод газорідинної хроматографії?

a. Адсорбційної
b. Іоннобмінної
c. Афінної
d. Гель-хроматографії
e. Розподільної
396. До якого класу сполук належить Цитохром Р450?
a. Піридинопротеїн
b. Гемопротеїн
c. Флавопротеїн
d. Нуклеопротеїн
e. Ліпопротеїн
397. До якого класу сполук належить Цитохром Р450?
a. Флавопротеїн
b. Нуклеопротеїн
c. Ліпопротеїн
d. Гемопротеїн
e. Піридинопротеїн
398. За яким механізмом відбувається приєднання Br_2 до пропену?
a. S_E
b. A_E
c. S_R
d. S_N
e. A_N
399. За яким механізмом відбувається приєднання Br_2 до пропену?
a. S_R
b. S_N
c. A_N
d. S_E
e. A_E
400. Первинні та вторинні нітроалкани є таутомерними сполуками. Яка таутомерія характерна для них?
a. Аци-нітротаутомерія
b. Аміно-імінна
c. Кето-енольна
d. Азольна
e. Лактам-лактимна
401. Первинні та вторинні нітроалкани є таутомерними сполуками. Яка таутомерія характерна для них?
a. Аци-нітротаутомерія
b. Лактам-лактимна
c. Кето-енольна
d. Азольна
e. Аміно-імінна
402. У чоловіка з діагнозом: цукровий діабет виявили такі показники артеріальної крові: pH крові – 7
a. Метаболічний ацидоз
b. Змішаний алкалоз
c. Газовий алкалоз
d. Змішаний ацидоз
e. Газовий ацидоз
403. У чоловіка з діагнозом: цукровий діабет виявили такі показники артеріальної крові: pH крові – 7
a. Змішаний алкалоз
b. Газовий алкалоз
c. Метаболічний ацидоз
d. Газовий ацидоз
e. Змішаний ацидоз
404. Як називаються реакції в яких багаторазово повторюється цикл елементарних актів за участю акти
a. Ланцюгові

b. Послідовні
c. Пов'язані
d. Паралельні
e. Фотохімічні
405. Як називаються реакції в яких багаторазово повторюється цикл елементарних актів за участю акти
a. Паралельні
b. Пов'язані
c. Фотохімічні
d. Ланцюгові
e. Послідовні
406. Який вид лікарських речовин належить до групи бур'янів?
a. Plantago major
b. Papaver somniferum
c. Salvia officinalis
d. Convallaria majalis
e. Mentha piperita
407. Який вид лікарських речовин належить до групи бур'янів?
a. Salvia officinalis
b. Papaver somniferum
c. Mentha piperita
d. Convallaria majalis
e. Plantago major
408. Який збудник викликає захворювання сифіліс?
a. Corynebacterium diphtheriae
b. Mycobacterium tuberculosis
c. Salmonella typhi
d. Borrelia recurrentis
e. Treponema pallidum
409. Який збудник викликає захворювання сифіліс?
a. Mycobacterium tuberculosis
b. Corynebacterium diphtheriae
c. Borrelia recurrentis
d. Treponema pallidum
e. Salmonella typhi
410. Який механізм передачі захворювання епідемічного висипного тифу?
a. Парентеральний
b. Фекально-оральний
c. Трансмісивний
d. Повітряно-крапельний
e. Вертикальний
411. Який механізм передачі захворювання епідемічного висипного тифу?
a. Повітряно-крапельний
b. Парентеральний
c. Вертикальний
d. Фекально-оральний
e. Трансмісивний
412. Який механізм інгібіторної дії неостигміну (прозерину)?
a. Ковалентне зв'язування з субстратом ферменту
b. Ковалентне зв’язування поза активним центром фермента
c. Окиснення іона заліза в активном у центрі фермента
d. Денатурація фермента
e. Конкуренція з ацетилхоліном за активний центр фермента
413. Який механізм інгібіторної дії неостигміну (прозерину)?
a. Окиснення іона заліза в активном у центрі фермента
b. Конкуренція з ацетилхоліном за активний центр фермента

c. Денатурація фермента
d. Ковалентне зв’язування поза активним центром фермента
e. Ковалентне зв'язування з субстратом ферменту
414. Який основний метод лабораторної діагностики ВІЛ інфекції?
a. Реакція коаглютинації
b. Реакція пасивної гемаглютинації
c. Імуноферментний аналіз
d. Радіоімунний аналіз
e. Імунофлуоресцентний
415. Який основний метод лабораторної діагностики ВІЛ інфекції?
a. Реакція коаглютинації
b. Реакція пасивної гемаглютинації
c. Імунофлуоресцентний
d. Імуноферментний аналіз
e. Радіоімунний аналіз
416. Який патогенез розвитку цукрового діабету 1-го типу?
a. Гіперпродукція глюкагону
b. Гіперпродукція кортизолу
c. Інсулінорезистентність жирової тканини
d. Гіперпродукція соматотропіну
e. Аутоімунне ушкодження В-клітин
417. Який патогенез розвитку цукрового діабету 1-го типу?
a. Гіперпродукція кортизолу
b. Гіперпродукція глюкагону
c. Гіперпродукція соматотропіну
d. Аутоімунне ушкодження В-клітин
e. Інсулінорезистентність жирової тканини
418. Який препарат належить до групи антихолінестеразних засобів?
a. Дипіроксим
b. Прозерин (неостигмін)
c. Ацетилхолін
d. Дитилін (суксаметонію хлорид)
e. Ізонітрозин
419. Який препарат належить до групи антихолінестеразних засобів?
a. Дипіроксим
b. Ацетилхолін
c. Дитилін (суксаметонію хлорид)
d. Ізонітрозин
e. Прозерин (неостигмін)
420. Який препарат належить до групи блокаторів Н2 – гістамінових рецепторів?
a. Гастроцепін
b. Альмагель
c. Фамотидин
d. Омепразол
e. Алохол
421. Який препарат належить до групи блокаторів Н2 – гістамінових рецепторів?
a. Омепразол
b. Альмагель
c. Фамотидин
d. Алохол
e. Гастроцепін
422. Який препарат із групи психотропних засобів блокує дофамінові рецептори?
a. Амітриптилін
b. Анальгін (метамізол натрію)
c. Аміназин (хлорпромазин)

d. Кофеїн-бензоат натрію
e. Діазепам
423. Який препарат із групи психотропних засобів блокує дофамінові рецептори?
a. Анальгін (метамізол натрію)
b. Діазепам
c. Амітриптилін
d. Кофеїн-бензоат натрію
e. Аміназин (хлорпромазин)
424. Який пігмент утворюється в реакції окиснення гему?
a. Білівердин
b. Стеркобіліноген
c. Хлорофіл
d. Каротин
e. Уробіліноген
425. Який пігмент утворюється в реакції окиснення гему?
a. Каротин
b. Білівердин
c. Уробіліноген
d. Хлорофіл
e. Стеркобіліноген
426. Який спосіб титрування використовують, якщо до розчину досліджуваної речовини додають точно
a. Титрування за залишком
b. Замісникове титрування
c. Пряме титрування
d. Неводне титрування
e. Будь-яке титрування
427. Який спосіб титрування використовують, якщо до розчину досліджуваної речовини додають точно
a. Пряме титрування
b. Титрування за залишком
c. Будь-яке титрування
d. Неводне титрування
e. Замісникове титрування
428. Який із нижченаведених антигіпертензивних препаратів призначається пацієнтам із бронхіальною
a. Анаприлін
b. Надолол
c. Лабеталол
d. Метопролол
e. Фармадипін
429. Який із нижченаведених антигіпертензивних препаратів призначається пацієнтам із бронхіальною
a. Лабеталол
b. Фармадипін
c. Надолол
d. Метопролол
e. Анаприлін
430. Який із патогенетичних факторів відіграє провідну роль у розвитку набряків у пацієнтів після тр
a. Підвищення онкотичного тиску в тканинах
b. Зниження онкотичного тиску крові
c. Зниження осмотичного тиску крові
d. Підвищення осмотичного тиску інтерстиціальної рідини
e. Зниження гідростатичного тиску крові
431. Який із патогенетичних факторів відіграє провідну роль у розвитку набряків у пацієнтів після тр
a. Підвищення онкотичного тиску в тканинах
b. Підвищення осмотичного тиску інтерстиціальної рідини
c. Зниження осмотичного тиску крові
d. Зниження онкотичного тиску крові

e. Зниження гідростатичного тиску крові

432. Яким методом здійснюють кількісне визначення вісмуту в препараті?

a. Йодометрії

b. Меркуриметрії

c. Перманганатометрії

d. Комплексонометрії

e. Аргентометрії

433. Яким методом здійснюють кількісне визначення вісмуту в препараті?

a. Перманганатометрії

b. Аргентометрії

c. Комплексонометрії

d. Меркуриметрії

e. Йодометрії