

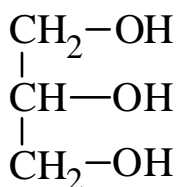
**Vinnitsa National Pirogov Memorial Medical University
Biological and General Chemistry Department
Medical chemistry course**

**Test questions for preparation to module 3 from bioorganic chemistry
“Biological importance of classes of bioorganic compounds.
Bio-polymers and them structural components”**

Vinnitsa 2016

Question №1

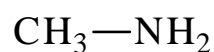
Choose the correct name of the substance



- | | | |
|----|---|-----------------|
| 1) | - | Sorbitol |
| 2) | - | Xylitol |
| 3) | + | Glycerol |
| 4) | - | Ethylene glycol |
| 5) | - | Polypropilen |

Question №2

Choose the correct name of the substance



- | | | |
|----|---|----------------|
| 1) | - | Isopropylamine |
| 2) | + | Metylamine |
| 3) | - | Ethylamine |
| 4) | - | Propylamine |
| 5) | - | Butylamine |

Question №3

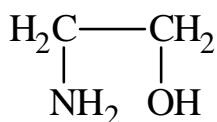
Choose the correct name of the substance



- | | | |
|----|---|---------------|
| 1) | - | Metylamine |
| 2) | + | Ethylamine |
| 3) | - | Propylamine |
| 4) | - | trimetylamine |
| 5) | - | dimetylamine |

Question №4

Choose the correct name of the substance

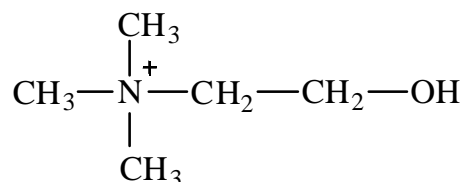


- | | | |
|----|---|---------------|
| 1) | - | Choline |
| 2) | + | Colamine |
| 3) | - | Acetylcholine |

4)	-	Histamine
5)	-	Serotonin

Question №5

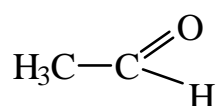
Choose the correct name of the substance



1)	-	Calamine
2)	-	Adrenaline
3)	-	Norepinephrine
4)	+	Choline
5)	-	Putrescine

Question №6

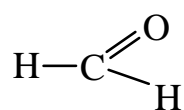
Choose the correct name of the substance



1)	+	acetaldehyde
2)	-	formaldehyde
3)	-	Propanal
4)	-	Acetone
5)	-	Butanal

Question №7

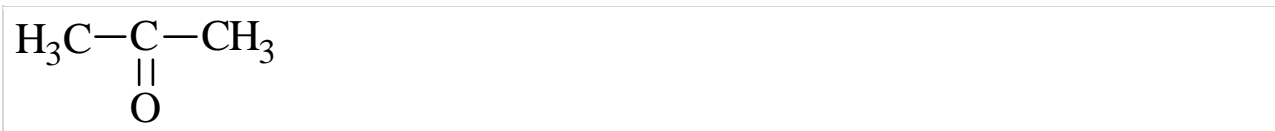
Choose the correct name of the substance



1)	+	Methanal
2)	-	Propanal
3)	-	Butanal
4)	-	Ethanal
5)	-	dimethylketone

Question №8

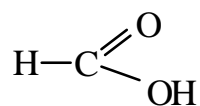
Choose the correct name of the substance



1)	+	Dimethylketone
2)	-	Methylethylketone
3)	-	Phenylethylketone
4)	-	Butanal
5)	-	Ethanal

Question №9

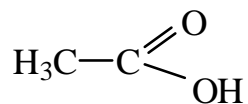
Choose the correct name of the substance



1)	-	acetic acid
2)	-	propanoic acid
3)	-	butanoic acid
4)	-	oxalic acid
5)	+	formic acid

Question №10

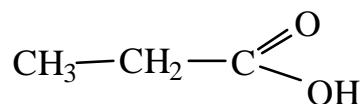
Choose the correct name of the substance



1)	+	acetic acid
2)	-	formic acid
3)	-	propanoic acid
4)	-	butanoic acid
5)	-	oxalic acid

Question №11

Choose the correct name of the substance

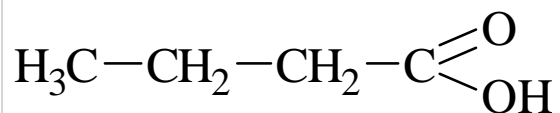


1)	-	formic acid
2)	-	acetic acid
3)	-	butanoic acid

4)	+	propanoic acid
5)	-	oxalic acid

Question №12

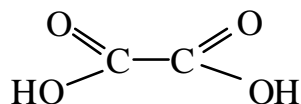
Choose the correct name of the substance



1)	-	acetic acid
2)	+	butanoic acid
3)	-	oxalic acid
4)	-	formic acid
5)	-	propanoic acid

Question №13

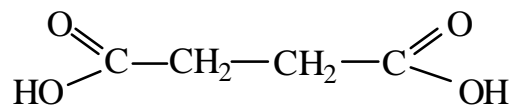
Choose the correct name of the substance



1)	-	acetic acid
2)	-	formic acid
3)	-	propanoic acid
4)	+	oxalic acid
5)	-	butanoic acid

Question №14

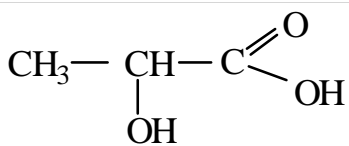
Choose the correct name of the substance



1)	+	Succinate
2)	-	Citrate
3)	-	Tartare
4)	-	Pyruvate
5)	-	Lactate

Question №15

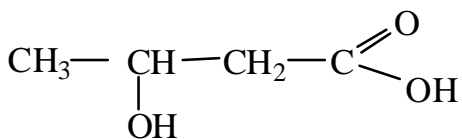
Choose the correct name of the substance



- | | | |
|----|---|-----------|
| 1) | - | Succinate |
| 2) | - | Citrate |
| 3) | - | Tartare |
| 4) | - | Pyruvate |
| 5) | + | Lactate |

Question №16

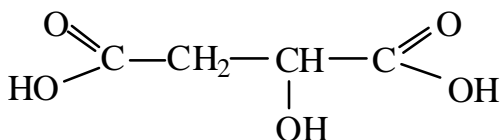
Choose the correct name of the substance



- | | | |
|----|---|-------------|
| 1) | - | Malate |
| 2) | - | Pyruvate |
| 3) | - | Tartare |
| 4) | - | Citrate |
| 5) | + | Oxybutyrate |

Question №17

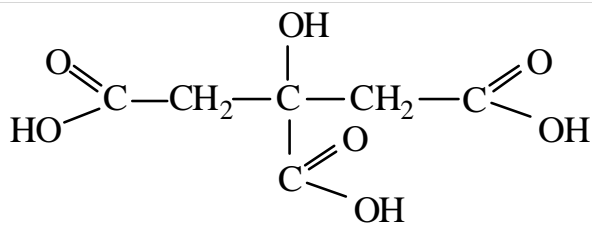
Choose the correct name of the substance



- | | | |
|----|---|--------------------------|
| 1) | - | Acetoacetate |
| 2) | - | Oxaloacetate |
| 3) | + | Malate |
| 4) | - | α - Ketoglutarate |
| 5) | - | Acrylate |

Question №18

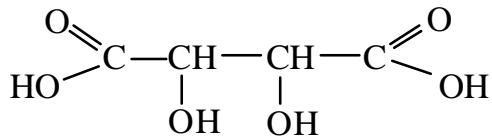
Choose the correct name of the substance



- | | | |
|----|---|-----------|
| 1) | - | Succinate |
| 2) | + | Citrate |
| 3) | - | Tartare |
| 4) | - | Pyruvate |
| 5) | - | Lactate |

Question №19

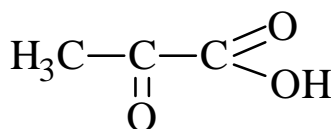
Choose the correct name of the substance



- | | | |
|----|---|-----------|
| 1) | + | Tartrate |
| 2) | - | Citrate |
| 3) | - | Succinate |
| 4) | - | Malonate |
| 5) | - | Oxalate |

Question №20

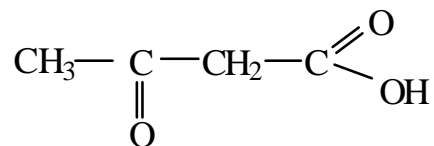
Choose the correct name of the substance



- | | | |
|----|---|--------------------------|
| 1) | - | Oxaloacetate |
| 2) | - | Acetoacetate |
| 3) | + | Pyruvate |
| 4) | - | α - Ketoglutarate |
| 5) | - | Glucarate |

Question №21

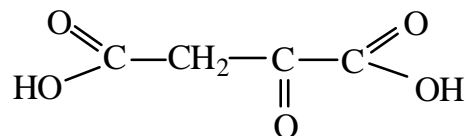
Choose the correct name of the substance



1)	-	Malate
2)	-	Oxaloacetate
3)	-	Pyruvate
4)	-	Lactate
5)	+	Acetoacetate

Question №22

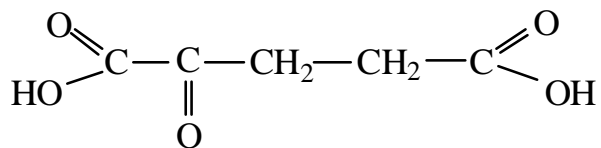
Choose the correct name of the substance



1)	-	Lactate
2)	+	Oxaloacetate
3)	-	Acetoacetate
4)	-	Malate
5)	-	Succinate

Question №23

Choose the correct name of the substance



1)	-	Acrylate
2)	-	Pyruvate
3)	+	α - Ketoglutarate
4)	-	Crotonic
5)	-	Oxaloacetate

Question №24

Choose the correct name of the substance

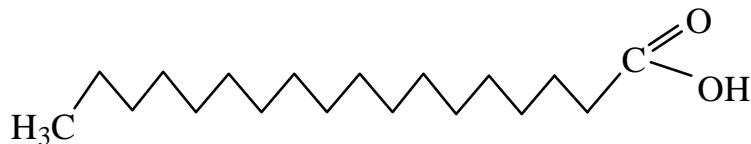


1)	+	Palmitic Acid
2)	-	Linolenic Acid
3)	-	Linoleic Acid
4)	-	Oleic Acid

5)	-	Stearic Acid
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Question №25

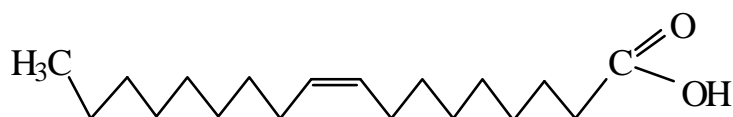
Choose the correct name of the substance



1)	-	Palmitic Acid
2)	-	Linolenic Acid
3)	-	Oleic Acid
4)	+	Stearic Acid
5)	-	Linoleic Acid

Question №26

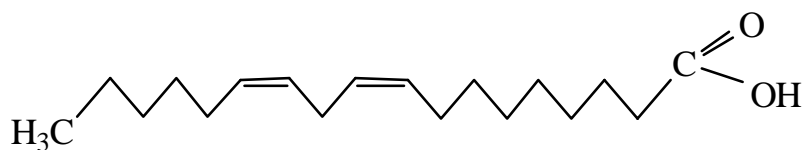
Choose the correct name of the substance



1)	-	Palmitic Acid
2)	+	Oleic Acid
3)	-	Linoleic Acid
4)	-	Linolenic Acid
5)	-	Stearic Acid

Question №27

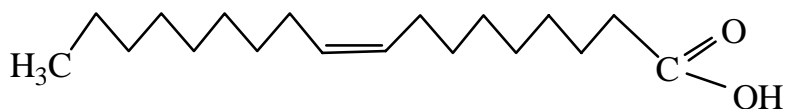
Choose the correct name of the substance



1)	-	Palmitic Acid
2)	-	Linolenic Acid
3)	-	Oleic Acid
4)	+	Linoleic Acid
5)	-	Stearic Acid

Question №28

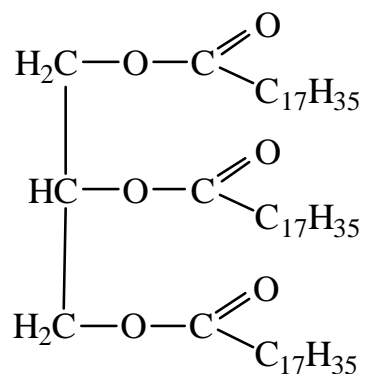
Choose the correct name of the substance



- | | | |
|----|---|----------------|
| 1) | - | Palmitic Acid |
| 2) | - | Linolenic Acid |
| 3) | - | Linoleic Acid |
| 4) | + | Oleic Acid |
| 5) | - | Stearic Acid |

Question №29

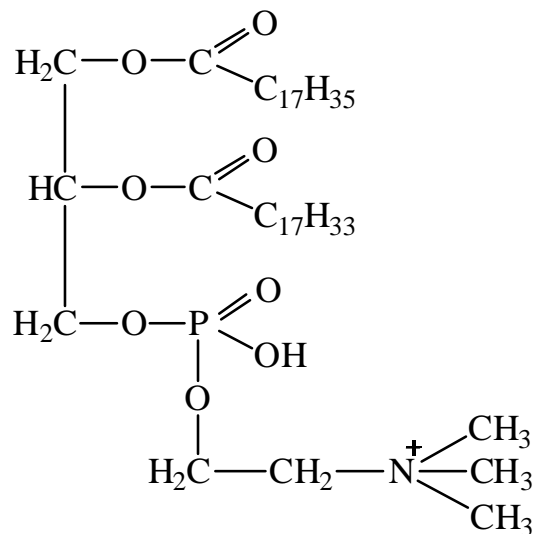
Choose the correct name of the substance



- | | | |
|----|---|--------------|
| 1) | + | tristearate |
| 2) | - | trioleate |
| 3) | - | trilinoleate |
| 4) | - | trilinoleate |
| 5) | - | tripalmitate |

Question №30

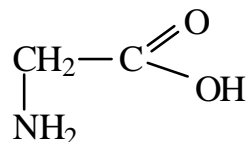
Choose the correct name of the substance



1)	-	phosphatidylserine
2)	-	phosphatidylcolamine
3)	-	phosphatidylglycine
4)	+	phosphatidilic acid
5)	-	phosphatidylproline

Question №31

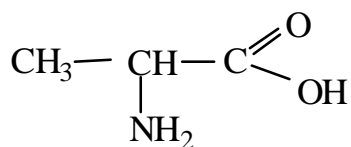
Choose the correct name of the substance



1)	-	Alanine
2)	+	Glycine
3)	-	Valine
4)	-	Serine
5)	-	Leucine

Question №32

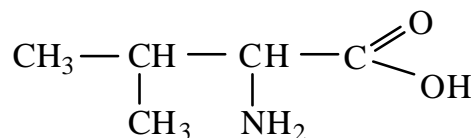
Choose the correct name of the substance



1)	+	alanine
2)	-	arginine
3)	-	glycine
4)	-	lysine
5)	-	phenylalanine

Question №33

Choose the correct name of the substance

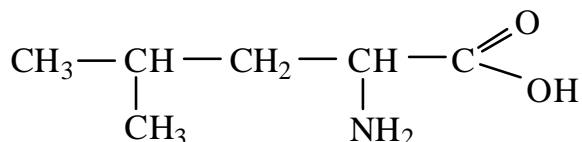


1)	+	Valine
2)	-	Cysteine
3)	-	Lysine
4)	-	Tyrosine

5)	-	Tryptophan
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Question №34

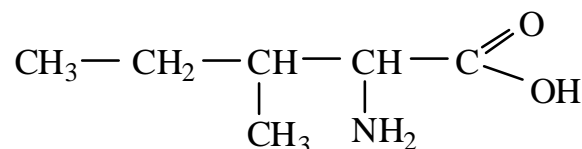
Choose the correct name of the substance



1)	+	Leucine
2)	-	Isoleucine
3)	-	Lysine
4)	-	Glutamine
5)	-	Valine

Question №35

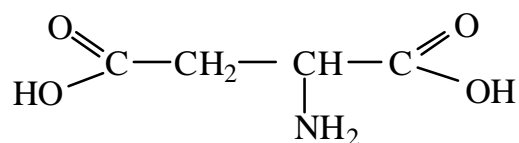
Choose the correct name of the substance



1)	-	Valine
2)	+	Isoleucine
3)	-	Leucine
4)	-	Tyrosine
5)	-	Alanine

Question №36

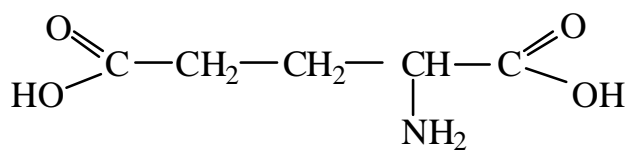
Choose the correct name of the substance



1)	-	Asparagine
2)	-	Glutamic acid
3)	-	Glutamine
4)	+	Aspartic acid
5)	-	Tyrosine

Question №37

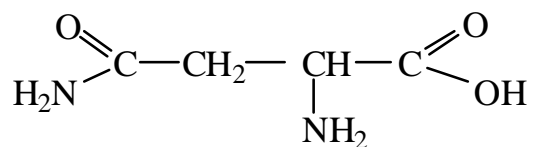
Choose the correct name of the substance



- | | | |
|----|---|---------------|
| 1) | - | Aspartic |
| 2) | + | Glutamic acid |
| 3) | - | Asparagine |
| 4) | - | Glutamine |
| 5) | - | Lysine |

Question №38

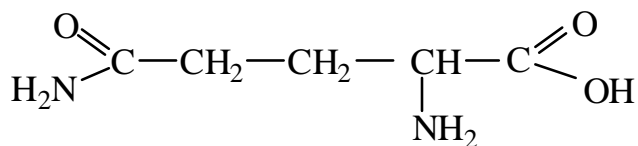
Choose the correct name of the substance



- | | | |
|----|---|---------------|
| 1) | - | Aspartic acid |
| 2) | - | Glutamic acid |
| 3) | + | Asparagine |
| 4) | - | Glutamine |
| 5) | - | Arginine |

Question №39

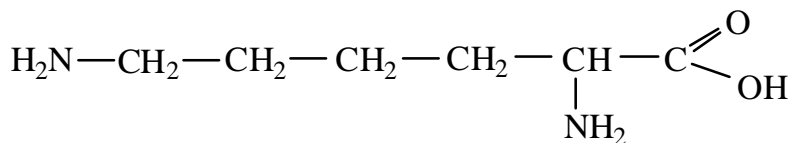
Choose the correct name of the substance



- | | | |
|----|---|---------------|
| 1) | - | Aspartic acid |
| 2) | - | Glutamic acid |
| 3) | - | Asparagine |
| 4) | + | Glutamine |
| 5) | - | Arginine |

Question №40

Choose the correct name of the substance

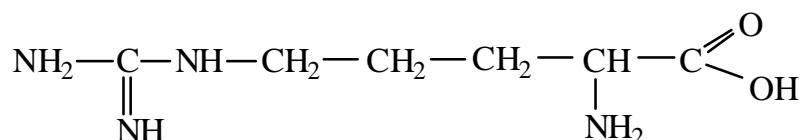


- | | | |
|----|---|----------|
| 1) | - | Arginine |
|----|---|----------|

2)	+	Lysine
3)	-	Isoleucine
4)	-	Leucine
5)	-	Valine

Question №41

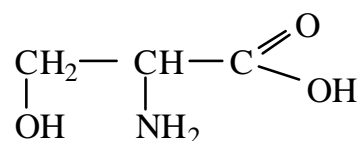
Choose the correct name of the substance



1)	-	Asparagine
2)	-	Glutamine
3)	-	Histidine
4)	+	Arginine
5)	-	Tryptophan

Question №42

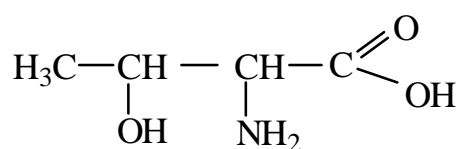
Choose the correct name of the substance



1)	-	Methionine
2)	-	Cysteine
3)	-	Phenylalanine
4)	-	Threonine
5)	+	Serine

Question №43

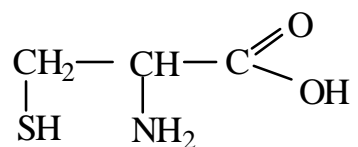
Choose the correct name of the substance



1)	+	Threonine
2)	-	Arginine
3)	-	Serine
4)	-	Cysteine
5)	-	Methionine

Question №44

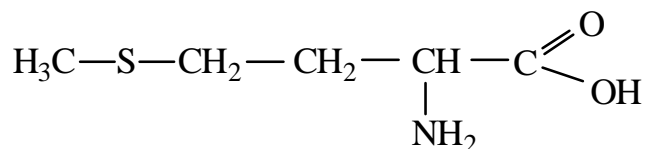
Choose the correct name of the substance



- | | | |
|----|---|---------------|
| 1) | + | Cysteine |
| 2) | - | Threonine |
| 3) | - | Methionine |
| 4) | - | Arginine |
| 5) | - | Phenylalanine |

Question №45

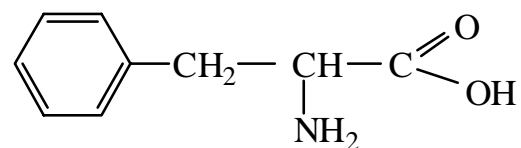
Choose the correct name of the substance



- | | | |
|----|---|---------------|
| 1) | - | Threonine |
| 2) | - | Serine |
| 3) | + | Methionine |
| 4) | - | Cysteine |
| 5) | - | Phenylalanine |

Question №46

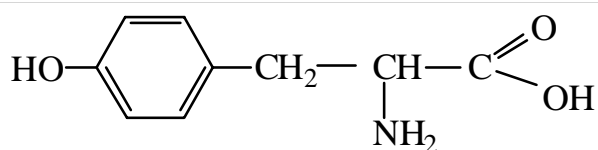
Choose the correct name of the substance



- | | | |
|----|---|---------------|
| 1) | - | Alanine |
| 2) | + | Phenylalanine |
| 3) | - | Tyrosine |
| 4) | - | Valine |
| 5) | - | Tryptophan |

Question №47

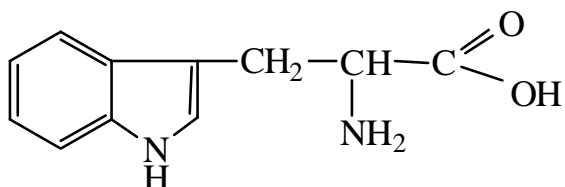
Choose the correct name of the substance



1)	-	Alanine
2)	-	Phenylalanine
3)	+	Tyrosine
4)	-	Tryptophan
5)	-	Histidine

Question №48

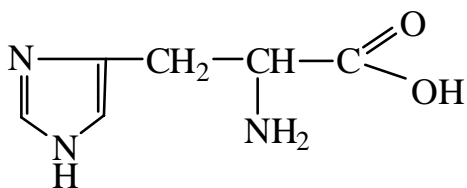
Choose the correct name of the substance



1)	-	Histidine
2)	+	Tryptophan
3)	-	Tyrosine
4)	-	Phenylalanine
5)	-	Isoleucine

Question №49

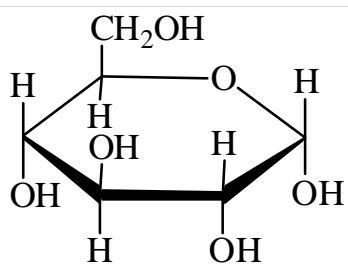
Choose the correct name of the substance



1)	+	Histidine
2)	-	Proline
3)	-	Tyrosine
4)	-	Tryptophan
5)	-	Phenylalanine

Question №50

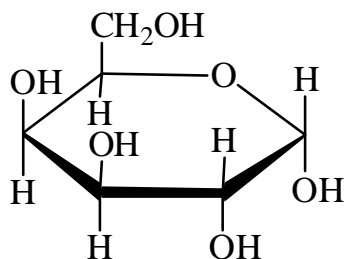
Choose the correct name of the substance



- | | | |
|----|---|-----------|
| 1) | - | Galactose |
| 2) | + | Glucose |
| 3) | - | Mannose |
| 4) | - | Maltose |
| 5) | - | Lactose |

Question №51

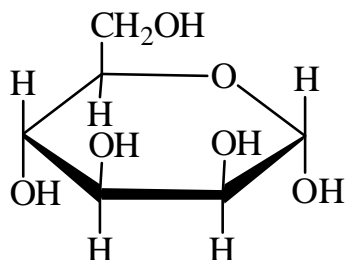
Choose the correct name of the substance



- | | | |
|----|---|-----------|
| 1) | - | Glucose |
| 2) | - | Mannose |
| 3) | + | Galactose |
| 4) | - | Fructose |
| 5) | - | Sucrose |

Question №52

Choose the correct name of the substance

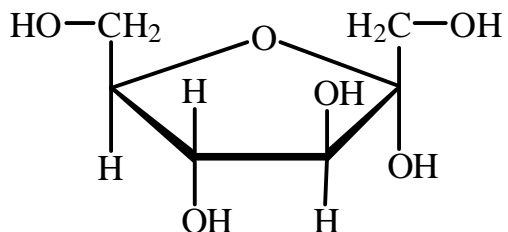


- | | | |
|----|---|-----------|
| 1) | - | Glucose |
| 2) | - | Galactose |
| 3) | + | Mannose |
| 4) | - | Fructose |

5)	-	Lactose
----	---	---------

Question №53

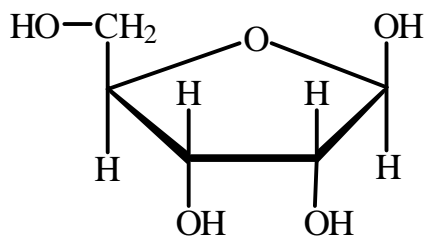
Choose the correct name of the substance



1)	-	Glucose
2)	-	Galactose
3)	+	Fructose
4)	-	Mannose
5)	-	Ribose

Question №54

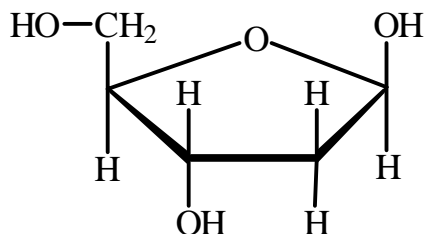
Choose the correct name of the substance



1)	-	Glucose
2)	-	Galactose
3)	-	Deoxyribose
4)	+	Ribose
5)	-	Fructose

Question №55

Choose the correct name of the substance

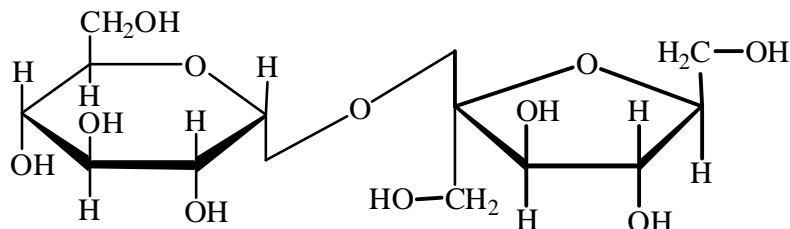


1)	+	Deoxyribose
2)	-	Ribose

3)	-	Galactose
4)	-	Mannose
5)	-	Fructose

Question №56

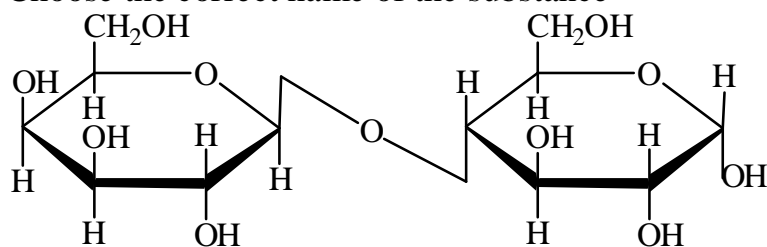
Choose the correct name of the substance



1)	-	Fructose
2)	-	Cellobiose
3)	-	Maltose
4)	+	Sucrose
5)	-	Lactose

Question №57

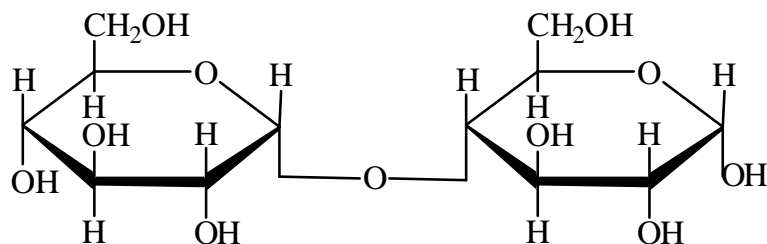
Choose the correct name of the substance



1)	-	Sucrose
2)	+	Lactose
3)	-	Maltose
4)	-	Cellobiose
5)	-	Trehalose

Question №58

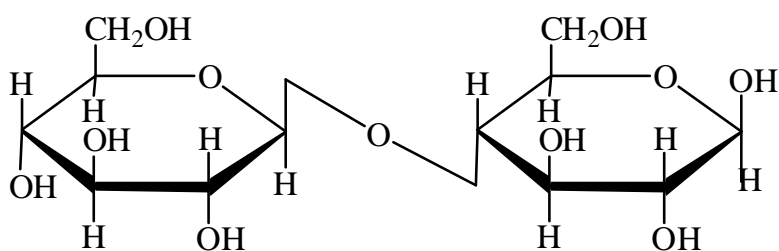
Choose the correct name of the substance



1)	-	Sucrose
2)	-	Lactose
3)	+	Maltose
4)	-	Cellobiose
5)	-	Trehalose

Question №59

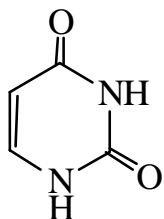
Choose the correct name of the substance



1)	-	Sucrose
2)	-	Lactose
3)	-	Maltose
4)	+	Cellobiose
5)	-	Trehalose

Question №60

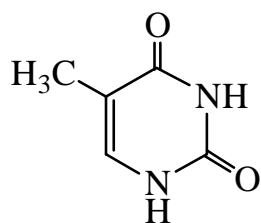
Choose the correct name of the substance



1)	+	Uracil
2)	-	Thymine
3)	-	Cytosine
4)	-	Adenine
5)	-	Guanine

Question №61

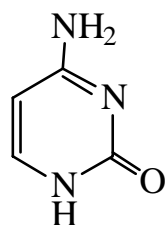
Choose the correct name of the substance



1)	-	Uracil
2)	+	Thymine
3)	-	Cytosine
4)	-	Adenine
5)	-	Guanine

Question №62

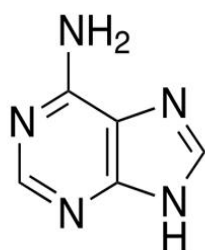
Choose the correct name of the substance



1)	-	Uracil
2)	-	Thymine
3)	+	Cytosine
4)	-	Adenine
5)	-	Guanine

Question №63

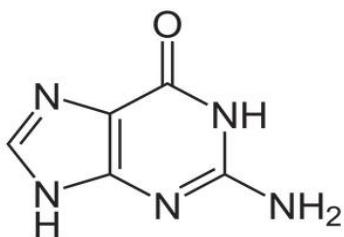
Choose the correct name of the substance



1)	-	Uracil
2)	-	Thymine
3)	-	Cytosine
4)	+	Adenine
5)	-	Guanine

Question №64

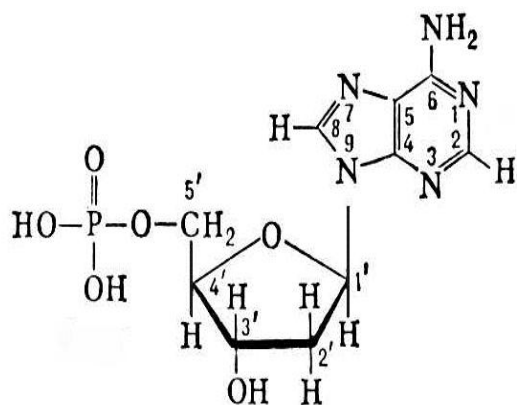
Choose the correct name of the substance



- | | | |
|----|---|----------|
| 1) | - | Uracil |
| 2) | - | Thymine |
| 3) | - | Cytosine |
| 4) | - | Adenine |
| 5) | + | Guanine |

Question №65

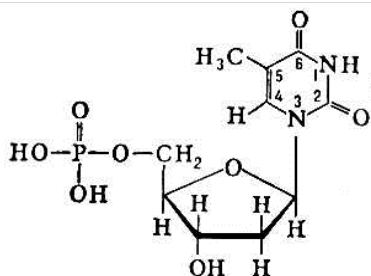
Choose the correct name of the substance



- | | | |
|----|---|------------------------------|
| 1) | + | deoxyadenosine- 5- phosphate |
| 2) | - | adenosine- 5- phosphate |
| 3) | - | deoxyguanosine- 5- phosphate |
| 4) | - | deoguanosine- 5- phosphate |
| 5) | - | adenine |

Question №66

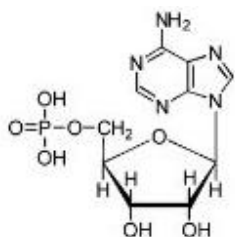
Choose the correct name of the substance



- | | | |
|----|---|--------------------------|
| 1) | - | deoadenosine-5-phosphate |
| 2) | - | deoguanosine-5-phosphate |
| 3) | + | deothymidine-5-phosphate |
| 4) | - | deouridine-5-phosphate |
| 5) | - | deocytosine-5-phosphate |

Question №67

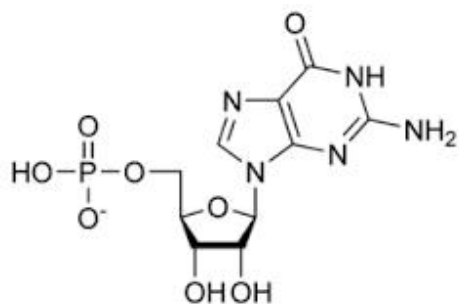
Choose the correct name of the substance



- | | | |
|----|---|--------------------------|
| 1) | + | Adenosine- 5- phosphate |
| 2) | - | Cytosine - 5- phosphate |
| 3) | - | Uridine - 5- phosphate |
| 4) | - | Thymidine - 5- phosphate |
| 5) | - | Guanosine- 5- phosphate |

Question №68

Choose the correct name of the substance

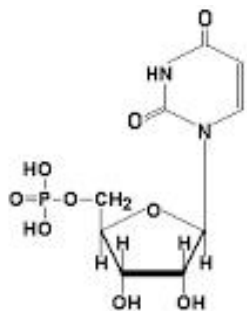


- | | | |
|----|---|-------------------------|
| 1) | - | Adenosine- 5- phosphate |
|----|---|-------------------------|

2)	-	Uridine - 5- phosphate
3)	-	Cytosine - 5- phosphate
4)	-	Thymidine - 5- phosphate
5)	+	Guanosine- 5- phosphate

Question №69

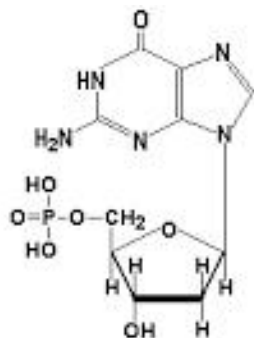
Choose the correct name of the substance



1)	-	Adenosine- 5- phosphate
2)	-	Guanosine- 5- phosphate
3)	-	Cytosine - 5- phosphate
4)	-	Thymidine - 5- phosphate
5)	+	Uridine - 5- phosphate

Question №70

Choose the correct name of the substance



1)	-	deoxyAdenosine- 5- phosphate
2)	-	deoxyUridine - 5- phosphate
3)	-	deoxyThymidine - 5- phosphate
4)	+	deoxyGuanosine- 5- phosphate
5)	-	deoxyCytosine - 5- phosphate

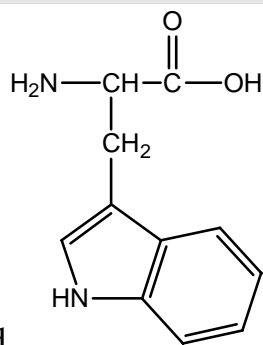
Question №71

Tartaric acid is:

1)	-	$\text{CH}_2=\text{CH}-\text{CH}_2-\text{COOH}$
----	---	---

2)	-	HOOC-CH=CH-CH ₂ -COOH
3)	-	NH ₂ -CH ₂ -COOH
4)	-	CH ₃ -CO-COOH
5)	+	HOOC-CH(OH)CH(OH)COOH

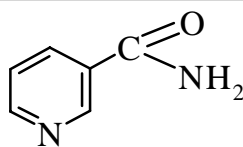
Question №72



What is amino acid named ?

1)	-	Valine
2)	-	Leucine
3)	-	Tyrosine
4)	+	Tryptophan
5)	-	Phenilalanine

Question №73



What is this compound: name?

1)	-	Adenine
2)	-	Cytosine
3)	-	Uracil
4)	-	Thymine
5)	+	Nicotinamide

Question №74

The organic compounds which contain as functional group of -OH are named:

1)	-	Halogen derivatives of hydrocarbond
2)	+	Alcohols
3)	-	Amines
4)	-	Aldehydes

5)	-	Carboxylic acids
Question №75		
The organic compounds which contain as functional group -NH ₂ are named:		
1)	-	Halogen derivatives of hydrocarbond
2)	-	Alcohols
3)	+	Amines
4)	-	Aldehydes
5)	-	Carboxylic acids
Question №76		
What compound is acyclic?		
1)	-	Cyclobutane
2)	+	Isobutane
3)	-	Cyclopropane
4)	-	Benzene
5)	-	Aniline
Question №77		
What compound is saturated?		
1)	-	Propyne
2)	+	Isobutane
3)	-	Octene-3
4)	-	Ethylene
5)	-	Butadiene
Question №78		
What compound is aromatic?		
1)	-	Pentene-2
2)	-	Octane
3)	-	Propene
4)	+	Phenol
5)	-	2,2-dichlorobutane
Question №79		
Aromatic compound is:		
1)	-	Isobutane
2)	-	Octene-3
3)	+	Aniline

4)	-	Butadiene
5)	-	Propane
Question №80		
Reagents, atoms or compounds with free electron are:		
1)	-	Nucleophilic reagents
2)	-	Electrophilic reagents
3)	-	Protons reagents
4)	+	Free radical reagents
5)	-	Ionic reagents
Question №81		
Reagents, atoms or compounds with incomplete electron on the valency electronic level is:		
1)	-	Nucleophilic reagents
2)	+	Electrophilic reagents
3)	-	Protons reagents
4)	-	Radical reagents
5)	-	Donor-type reagents
Question №82		
Particles with the pair of electrons at valency electronic level are:		
1)	+	Nucleophilic reagents
2)	-	Electrophilic reagents
3)	-	Protons reagents
4)	-	Radical reagents
5)	-	Donor-type reagents
Question №83		
Specific arrangement of atoms in an organic compound that is capable of characteristic chemical reactions is:		
1)	-	Primary structure
2)	-	Structural formula
3)	-	Radical
4)	+	Functional group
5)	-	Homological row
Question №84		
What reagent is used for separated glycerin and ethanol?		

1)	+	Cu(OH) ₂
2)	-	HBr
3)	-	FeCl ₃
4)	-	KMnO ₄
5)	-	[Ag(NH ₃) ₂]OH

Question №85

What compound can oxidate if ethanoic acid is formed?

1)	+	Ethanal
2)	-	Ether
3)	-	Glycerol
4)	-	Methane
5)	-	Sulfur

Question №86

In reaction aldehydes with hydrocyanic acid are formed:

1)	-	Acetals
2)	-	Hydrates
3)	+	Cyanohydrates
4)	-	Hemiacetals
5)	-	Schiff's base

Question №87

What product is formed if aldehydes react with amines?

1)	-	Acetals
2)	-	Hydrates
3)	-	Cyanohydrates
4)	-	Hemiacetals
5)	+	Schiff's bases.

Question №88

What product is formed if aldehydes react with water?

1)	-	Acetals
2)	+	Hydrates
3)	-	Cyanohydrates
4)	-	Hemiacetals
5)	-	Schiff bases

Question №89

What product can form if aldehydes react with one molecule of alcohol?

1)	-	Acetals
2)	-	Hydrates
3)	-	Cyanohydrates
4)	+	Hemiacetals
5)	-	Schiff bases

Question №90

In reaction aldehydes with two molecules of alcohol can form:

1)	+	Acetals
2)	-	Hydrates
3)	-	Cyanohydrates
4)	-	Hemiacetals
5)	-	Schiff's bases

Question №91

In oxidation reaction of aldehydes can form:

1)	-	Acetals
2)	-	Hydrates
3)	-	Cyanohydrates
4)	-	Schiff's bases
5)	+	Carboxylic acids

Question №92

Tollens and Benedict's test are used for:

1)	-	To determine acidic properties of aldehydes
2)	-	To determine all reduction properties of ketons
3)	+	To determine aldehydic group in compounds
4)	-	To prepare hemiacetal
5)	-	To study CH-acid properties of alkynes

Question №93

Which functional group is in the aldehydes?

1)	+	Carbonyl group
2)	-	Carboxyl group
3)	-	Nitro group
4)	-	Phenyl group

5)	-	Sulfo group
Question №94		
Formalin is:		
1)	-	Water solution of ethanal
2)	+	Water solution of formaldehyde
3)	-	Water solution of acetone
4)	-	Alcoholic solution of ethanal
5)	-	Alcoholic solution of formaldehyde
Question №95		
The carbon atom in carbonyl group of aldehydes and ketones has:		
1)	-	sp^4 - hybridization
2)	-	sp^3 - hybridization
3)	+	sp^2 - hybridization
4)	-	sp -hybridization
5)	-	Not hybridization
Question №96		
What compound can determine by an iodoform test?		
1)	-	Ethanal
2)	-	Formaldehyde
3)	+	Acetone
4)	-	Butanal
5)	-	Benzaldehyde
Question №97		
For aldehydes and ketones are typical such reaction:		
1)	-	Nucleophilic substitution
2)	+	Nucleophilic addition
3)	-	Electrophilic substitution
4)	-	Electrophilic addition
5)	-	Elimination
Question №98		
What reagents are used for determination of aldehydic group in compounds?		
1)	+	$Cu(OH)_2$
2)	-	$Br_2(H_2O)$.
3)	-	$Ca(OH)_2$.

4)	-	Solution of KMnO_4 .
5)	-	H_2SO_4
Question №99		
You can determine ethanal in solution by such reagent:		
1)	-	Adamkevich
2)	-	Foll
3)	+	Tollens
4)	-	Xanthoprotein
5)	-	Millon
Question №100		
Disproportionation reaction of formaldehyde is:		
1)	+	Oxidation-reduction reaction
2)	-	React with water
3)	-	React with hydrogen
4)	-	Dehydration reaction
5)	-	Decarboxylation reaction
Question №101		
For aldehydes are typical all reaction except:		
1)	-	React with hydrocyanic acid
2)	-	React with alcohols
3)	-	React with water
4)	+	React with carboxylic acids
5)	-	React with amines
Question №102		
What can form compound if saturated aldehyde react with hydrogen?		
1)	-	Ethers
2)	-	Unsaturated monoatomic alcohols
3)	-	Carboxylic acids
4)	-	Unsaturated aldehydes
5)	+	Saturated monoatomic alcohols
Question №103		
Compounds formaldehyde and methanal is:		
1)	-	Homologues
2)	-	Geometrical isomers

3)	-	Structural isomers
4)	+	The same compounds
5)	-	Optical isomers

Question №104

What is formula of ethanoic acid?

1)	-	C_2H_5COOH
2)	-	C_4H_9COOH
3)	-	$C_8H_{17}COOH$
4)	-	$HCOOH$
5)	+	CH_3COOH

Question №105

Formula of methanoic acid is:

1)	-	C_2H_5COOH
2)	-	C_4H_9COOH
3)	-	$C_8H_{17}COOH$
4)	+	$HCOOH$
5)	-	CH_3COOH

Question №106

Carboxylic acids contain such functional group:

1)	-	-OH
2)	-	-COH
3)	+	-COOH
4)	-	-CH ₃
5)	-	-CCl ₄

Question №107

What class of organic compounds is tartaric acid?

1)	-	Alcohols
2)	-	Thioles
3)	-	Aromatic hydrocarbons
4)	-	Condensed arenas
5)	+	Carboxylic acids

Question №108

What acid has more acidity?

1)	+	Oxilic
----	---	--------

2)	-	Oleic
3)	-	Propanoic
4)	-	Acetic
5)	-	Butanoic
Question №109		
What acids are tribasic?		
1)	+	Citric acid
2)	-	Butyric acid
3)	-	Tartaric acid
4)	-	Valeric acid
5)	-	Fumaric acid
Question №110		
Carboxylic acids are classified by amount of carboxyl group into:		
1)	-	Aliphatic, aromatic
2)	-	Aromatic and alicyclic
3)	+	Mono-, di-, tricarboxylic acids
4)	-	Alicyclic and aliphatic
5)	-	Mono and polyatomic
Question №111		
What carboxylic acid is the most acidity?		
1)	+	$\begin{array}{c} \text{Cl} \\ \\ \text{Cl}-\text{C}-\text{COOH} \\ \\ \text{Cl} \end{array}$
2)	-	$\begin{array}{c} \text{Cl}-\text{CH}-\text{COOH} \\ \\ \text{Cl} \end{array}$
3)	-	$\text{Cl}-\text{CH}_2-\text{COOH}$
4)	-	CH_3-COOH
5)	-	$\text{CH}_3-\text{CH}_2-\text{COOH}$
Question №112		
General formula of carboxylic acids is:		
1)	-	COH
2)	-	ROH

3)	-	R - SH
4)	-	R - NH ₂
5)	+	R - COOH

Question №113

The simplest oxo-acid is:

1)	+	Pyrovic
2)	-	Glycolic
3)	-	Acetoacetic
4)	-	Oxaloacetic
5)	-	Tartaric

Question №114

In Krebs cycle (tricarboxylic acid cycle) can form such compounds:

1)	-	Lactic and pyrovic acids
2)	-	Acetoacetic and sulfuric acids
3)	+	Isocitric and α -keto-glutaric acids
4)	-	Isocitric and aconitic acid
5)	-	Citric acid and acetone

Question №115

What reactions are named the esterification reaction?

1)	-	Reaction alcohols with water
2)	-	Reaction alcohols with sodium
3)	+	Reaction alcohols with carboxylic acids
4)	-	Reaction alcohols with halogens
5)	-	Reaction between alcohol molecules

Question №116

Fatty acids are acids which contain the following amount of carbon atoms:

1)	-	C ₁ , C ₂
2)	-	C ₃ - C ₇
3)	+	C ₁₆ , C ₁₈ , C ₂₀
4)	-	C ₁ -C ₅
5)	-	C ₃ - C ₄

Question №117

What is the more saturated acid?

1)	-	Linolenic
----	---	-----------

2)	-	Arachidonic
3)	-	Olein
4)	+	Arachinoic
5)	-	Linolic
Question №118		
What positions of C=C are in molecule of linolic acid?		
1)	+	(9-10, 12-13)
2)	-	(5-6, 8-9, 11-12, 14-15)
3)	-	(9-10, 12-13, 15-16, 18-19)
4)	-	(5-6, 9-10, 14-15)
5)	-	(9-10, 14-15)
Question №119		
What fatty acids are essential for human body?		
1)	-	Arachinoic and arachidonic
2)	+	Linoleic and linolenic
3)	-	Palmitic that stearic
4)	-	Oleic that stearic
5)	-	Palmitic and arachidonic
Question №120		
What positions of C=C are in molecule of linolenic acid?		
1)	-	(9-10, 12-13)
2)	+	(9-10, 12-13, 15-16)
3)	-	(9-10, 14-15)
4)	-	(8-9, 11-12, 14-15)
5)	-	(5-6, 9-10, 14-15)
Question №121		
What the saturated fatty acids prevails in the human body?		
1)	-	Lauric
2)	-	Palmitic
3)	+	Stearic
4)	-	Enanthic
5)	-	Myristic
Question №122		
What positions of C=C are in molecule of arachidonic acid?		

1)	-	(9-10, 12-13)
2)	+	(5-6, 8-9, 11-12, 14-15)
3)	-	(9-10, 12-13, 15-16, 18-19)
4)	-	(5-6, 9-10, 14-15)
5)	-	(9-10, 14-15)

Question №123

What positions of C=C are in molecule of oleic acid?

1)	-	(9-10, 12-13)
2)	-	(15-16, 18-19)
3)	+	(9-10).
4)	-	(11-12, 14-15)
5)	-	(5-6)

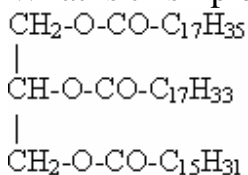
Question №124

What the unsaturated fatty acids prevails in the human body?

1)	-	Linoleic acid
2)	+	Oleic acid
3)	-	Arachidonic acid
4)	-	Palitooleic acid
5)	-	Linolenic acid

Question №125

What is this lipid name:



1)	+	Stearooleopalmitate
2)	-	Stearodioleate
3)	-	Stearodipalmitate
4)	-	Oleodistearate
5)	-	Oleodipalmitate

Question №126

What lipids are nonsaponifiable?

1)	-	Glycolipids
2)	-	Phospholipids

3)	-	Waxes
4)	+	Prostoglandine
5)	-	Fats

Question №127

Waxes are.... by chemical structure.

1)	-	Ethers of fatty acids and lower monoatomic alcohols.
2)	-	Ethers of fatty acids and diatomic alcohols.
3)	+	Esters of fatty acids and long carbon chain monoatomic alcohols
4)	-	Esters of higher fat acids and triatomic alcohols
5)	-	Esters of hydrocarboxylic acids and lower monoatomic alcohols

Question №128

Triglyceride which contains different fatty acid residues is:

1)	-	Neutral
2)	-	Simple
3)	+	Compound
4)	-	Artificial
5)	-	Mixed

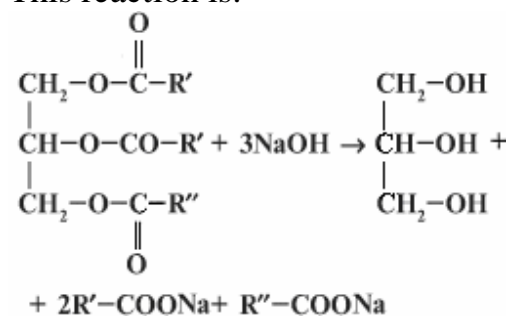
Question №129

Lipid is.... by chemical structure:

1)	-	Ethers of lower carboxylic acids and alcohols
2)	+	Esters of fatty acids and alcohols
3)	-	Esters of hydroxylacid and higher monoatomic alcohols
4)	-	Ethers of fatty acids and diatomic alcohols
5)	-	Esters of hydroxylacid and long carbon chain monoatomic alcohols

Question №130

This reaction is:



1)	-	Oxidation
2)	-	Hydrogenates

3)	-	Esterification
4)	+	Saponifiable
5)	-	Elimination
Question №131		
Unsaturated fatty acid:		
1)	-	Palmitic
2)	+	Linolenic
3)	-	Butanoic
4)	-	Myristic
5)	-	Stearic.
Question №132		
Waxes are all compounds except:		
1)	+	Menthol
2)	-	Lanoline
3)	-	Spermaceti
4)	-	Ozocerite
5)	-	Bee beeswax
Question №133		
Oils can transformation in to fats. What is reaction name?		
1)	+	Hydrogenizing
2)	-	Hydrolysis
3)	-	Dehydrogenization
4)	-	Dehydration
5)	-	Oxidation
Question №134		
The hydrogenizing fats can use on:		
1)	-	Prepare of drying oil.
2)	-	Higher molecular carboxylic acids.
3)	+	Prepare of margarine, soap.
4)	-	Prepare of alcohols.
5)	-	Prepare of glycerin.
Question №135		
What alcohol can determine by copper (II) hydroxyl?		
1)	+	Glycerol

2)	-	Ethanol
3)	-	Benzol
4)	-	Propanol
5)	-	Butanol

Question №136

Hydrophobic amino acids are:

1)	-	Aspartic acid and lysine
2)	+	Leucine, valine, isoleucine
3)	-	Phenilalanine, tyrosine
4)	-	Cysteine, methionine
5)	-	Glycine, tyramine

Question №137

What amino acid is contain OH group?

1)	-	Histidine
2)	+	Tyrosine
3)	-	Lysine
4)	-	Arginine
5)	-	Methionine

Question №138

What chemical elements have not the amino acids?

1)	-	Hydrogen
2)	-	Oxygen
3)	-	Sulfur
4)	-	Nitrogen
5)	+	Phosphor

Question №139

Heterocyclic amino acid is:

1)	-	Valine
2)	-	Isoleucine
3)	+	Histidine
4)	-	Phenilalanine
5)	-	Glycine

Question №140

What amino acid is imino-acids?

1)	-	Tryptophane
2)	-	Argenine
3)	-	Tyrosine
4)	+	Proline
5)	-	Histidine

Question №141

Carbocyclic amino acid is:

1)	-	Tryptophane, argenine
2)	+	Phenilalanine, tyrosine
3)	-	Methionine, glycine
4)	-	Valine, histidine
5)	-	Alanine, tryptophane

Question №142

The sample solution gives the positive ninhydrin and Foll reactions. Which component contains this solution?

1)	-	Hydrolyzed of proteins with aromatic α -amino acids
2)	+	Hydrolyzed of proteins with sulfur-contain α -amino acids
3)	-	Hydrolyzed of proteins with acid α -amino acids
4)	-	Hydrolyzed of proteins with neutral α -amino acids
5)	-	Hydrolyzed of proteins with basic α -amino acids

Question №143

Essential amino acid is:

1)	-	Alanine, serine
2)	-	Asparagine, glutamine
3)	-	Aspartic acid, glutamic aciud
4)	+	Methionine, tryptophane
5)	-	Cystein, praline

Question №144

L-amino acid is formed after hydrolysis polymers. What is this biopolimer?

1)	+	Proteins
2)	-	Nucleic acids
3)	-	Heparin
4)	-	Starch
5)	-	Hyaluronic acid

Question №145

Deamination reaction is used for quantitative determination of α -amino acids. What reagent is used for this reaction?

- | | | |
|----|---|---------------------------------|
| 1) | + | HNO ₂ |
| 2) | - | NaCl |
| 3) | - | KOH |
| 4) | - | NH ₄ NO ₃ |
| 5) | - | HCl |

Question №146

Choose sulfur-containing amino acid:

- | | | |
|----|---|-------------|
| 1) | - | Arginine |
| 2) | + | Methionine |
| 3) | - | Serine |
| 4) | - | Tryptophane |
| 5) | - | Threonine |

Question №147

Peptid bonds are formed between groups:

- | | | |
|----|---|---------------------------------------|
| 1) | + | -NH ₂ and -COOH |
| 2) | - | -NH ₂ and -CH ₃ |
| 3) | - | -NH ₂ and -SH |
| 4) | - | -COOH and -OH |
| 5) | - | -COOH and -CH ₃ |

Question №148

Qualitative test on all α -amino acid is:

- | | | |
|----|---|---------------|
| 1) | - | Foll |
| 2) | - | Biuret |
| 3) | + | Ninhydrin |
| 4) | - | Xanthoproteic |
| 5) | - | Adamkevich |

Question №149

Qualitative test on all aromatic α -amino acid is:

- | | | |
|----|---|-----------|
| 1) | - | Foll |
| 2) | - | Biuret |
| 3) | - | Ninhydrin |

4)	+	Xanthoproteic
5)	-	Adamkevich
Question №150		
Choose dicarbonic amino acid.		
1)	-	Isoleucine
2)	+	Aspartic acid
3)	-	Lusine
4)	-	Leucine
5)	-	Arginine
Question №151		
The sample solution gives the positive ninhydrin and xanthoproteic reactions. Which component contains this solution?		
1)	-	Imino-acids and cystein
2)	-	Protein and glucose
3)	-	Proline and alanine
4)	+	Proteins or polymers with aromatic amino acid
5)	-	Maltose and glutamic acids
Question №152		
What amino acid are base:		
1)	-	Tryptophane, arginine
2)	-	Phenilalanine, tyrosine
3)	+	Arginine, lusine, histidin
4)	-	Leucine, glycine
5)	-	Aspartic and glutamic acids
Question №153		
What product can form in oxidizing diamination alanine?		
1)	-	Propenioc acid
2)	-	Butanoic acid
3)	-	Glycol acid
4)	-	Propanoic acid
5)	+	Lactic acid
Question №154		
Ninhydrin reagent is used as qualitative test on:		
1)	-	Glucose

2)	+	alfa-amino acids
3)	-	Nucleic acids
4)	-	Nucleic bases
5)	-	Imino-acids

Question №155

What is position of amino group in amino acid molecule of proteins?

1)	-	d- position
2)	-	b- position
3)	-	g- position
4)	+	a- position
5)	-	e- position

Question №156

What amino acids are acidic?

1)	-	Phenilalanine, tyrosine
2)	+	Aspartic and glutamic acid
3)	-	Aspartic acid and glycine
4)	-	Glutamic acid and glycine
5)	-	Methionine, tryptophane

Question №157

Proteins have total positive charge in which prevail:

1)	+	Lusine and argentine
2)	-	Aspartic and glutamic acids
3)	-	Lusine and glutamic acid
4)	-	Methionine, Tyrosine
5)	-	Lusine and aspartic acid

Question №158

The primary structure of protein is formed by such bond:

1)	-	Ester
2)	-	Ionic
3)	-	Glycosidic
4)	+	Peptide
5)	-	Hydrogen

Question №159

Salting up is the precipitation of proteins in solution by:

1)	-	Salts of heavy metals
2)	-	Concentrated mineral acids
3)	+	Saturated and sub-saturated solution of alkaline and alkaline-earth metals
4)	-	Alkaloids
5)	-	High temperature

Question №160

What method can use for separation proteins which have different acid-base activity?

1)	-	Ion-exchange chromatography
2)	+	Gel-filtration
3)	-	Selective adsorption
4)	-	Paper chromatography
5)	-	Affinity chromatography

Question №161

Total negative charge has proteins in which prevail:

1)	-	Lusine and argentine
2)	+	Aspartic and glutamic acids
3)	-	Lusine and glutamic acid
4)	-	Methionine, Tyrosine
5)	-	Lusine and aspartic acid

Question №162

Glycoproteins consist the protein and:

1)	+	Carbohydrate components
2)	-	Metal ion
3)	-	Phosphor
4)	-	Phenol
5)	-	Nucleotides

Question №163

In test tubes is: in first - glucose solution. in second - fructose. in third - starch. What reagent is used for determine glucose?

1)	+	Feling's reagent
2)	-	Fole's reagent
3)	-	Mohr's reagent
4)	-	Adamcevich's reagent

5)	-	Ninhydrin
Question №164		
Glucose is heterofunctional compounds. What functional groups is in molecule glucose.		
1)	-	Carboxyl and keton
2)	-	Hydroxyl and carboxyl
3)	+	Aldehyde and hydroxyl
4)	-	Amino and keton
5)	-	Carboxyl and amino
Question №165		
Aldohexose is all except:		
1)	-	D-glucose
2)	-	D-galactose
3)	-	D-mannose
4)	+	D-fructose
5)	-	D-idose
Question №166		
In DNA is such monocaccharose:		
1)	-	D-galactose
2)	-	D-glucose
3)	-	D-ribose
4)	+	D-dioxiribose
5)	-	D-fructose
Question №167		
Equivalent mixture of optical antipodes is:		
1)	-	Conformer
2)	+	Racemic
3)	-	Enantiomers
4)	-	Diastereomers
5)	-	Epimers
Question №168		
Diastereomers in molecule which is configuration differ only at one chiral center are:		
1)	-	Conformer
2)	-	Racemic

3)	-	Enantiomers
4)	-	Anomers
5)	+	Epimers

Question №169

What disaccharide is formed after hydrolysis starch by enzyme β -amilase?

1)	-	Sucrose
2)	+	Maltose
3)	-	Lactose
4)	-	Galactose
5)	-	β -Celabiose

Question №170

Oligosaccharides are compounds, which hydrolyzed into monosaccharides:

1)	-	1-5
2)	-	2-8
3)	-	2-6
4)	+	2-10
5)	-	2-9

Question №171

Maltose is disaccharide which name:

1)	-	b-D-galactopyranosyl-1,4-a- D-glucopyranose
2)	-	b-D-fructofuranose
3)	+	a- D-glucopyranosyl-1,4-a- D-glucopyranose
4)	-	b- D-glucopyranosyl-1,4-b- D-glucopyranose
5)	-	a- D-glucopyranosyl-1,2-b-D-fructofuranose

Question №172

Sucrose is disaccharide which name:

1)	-	b-D-galactopyranosyl-1,4-a- D-glucopyranose
2)	-	b-D-fructofuranose
3)	-	a- D-glucopyranosyl- 1,4-a- D-glucopyranose
4)	-	b- D-glucopyranosyl-1,4-b- D-glucopyranose
5)	+	a- D-glucopyranosyl-1,2-b-D-fructofuranose

Question №173

Lactose is disaccharide which name:

1)	+	b-D-galactopyranosyl-1,4-a- D-glucopyranose
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2)	-	b-D-fructofuranose
3)	-	a- D-glucopyranosyl-1,4-a- D-glucopyranose
4)	-	b- D-glucopyranosyl-1,4-b- D-glucopyranose
5)	-	a- D-glucopyranosyl-1,2-b-D-fructofuranose

Question №174

Celabiose is disaccharide which name:

1)	-	b-D-galactopyranosyl-1,4-a- D-glucopyranose
2)	-	b-D-fructofuranose
3)	-	a- D-glucopyranosyl-1,4-a- D-glucopyranose
4)	+	b- D-glucopyranosyl-1,4-b- D-glucopyranose
5)	-	a- D-glucopyranosyl- 1,2-b-D-fructofuranose

Question №175

Polysaccharide is:

1)	+	Starch
2)	-	Lactose
3)	-	Maltose
4)	-	Ribose
5)	-	Fructose

Question №176

Heparin is basis:

1)	-	Muscular tissue
2)	-	Cartilaginous tissue
3)	-	Hair
4)	-	Nervous system
5)	+	Blood

Question №177

By the size of ring heterocyclic compound classified into:

1)	-	Saturated, unsaturated aromatic
2)	-	Nitrogen-, oxygen, sulfocontain
3)	+	Five-, six-, seven member ring
4)	-	Cycles with one and two hetero atoms
5)	-	Condensed and non condensed heterocyclic compound

Question №178

What medicine has imidasol ring in molecule?

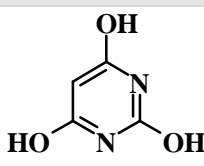
1)	-	Analgin
2)	+	Histamine
3)	-	Antipyrine
4)	-	Amidopyrine
5)	-	Furocyline
Question №179		
What heterocyclic derivatives are used as sleeping pill?		
1)	-	Pyridine
2)	-	Nicotinic acid
3)	-	Xantine
4)	-	Uric acid
5)	+	Barbituric acid
Question №180		
Heterocyclic compounds have hetero-atoms. What are classified heterocyclic compounds by nature hetero-atoms?		
1)	-	Saturated, unsaturated, aromatic
2)	+	Nitrogen-, Oxygen-, Sulfur-contains compounds
3)	-	Five-, six-, seven-member ring
4)	-	Cycles with one and two hetero atoms
5)	-	Condensed and non condensed heterocyclic compound
Question №181		
Condensed heterocyclic compound is:		
1)	-	Furan
2)	-	Pyrole
3)	+	Purine
4)	-	Pyridine
5)	-	Pyrazine
Question №182		
What compound has tetrapyrrole ring?		
1)	-	Uric acid
2)	-	Nicotinic acid
3)	-	Xanthine
4)	+	Vitamin B ₁₂
5)	-	Barbituric acid

Question №183

Qualitative tests on purine ring in uric acid is:

1)	-	Tromer's reaction
2)	-	Iodoform reaction
3)	+	Murexide test
4)	-	FeCl ₃ solution
5)	-	Selivanov's reaction

Question №184

Barbituric acid  is derivative of:

1)	-	Pyrazole
2)	-	Pyrimidine
3)	-	Pypirazine
4)	+	Pyridine
5)	-	Pyrazine

Question №185

Secondary structure of DNA is formed by bond:

1)	-	Ester
2)	-	Ionic
3)	-	Glycosidic
4)	-	Peptide
5)	+	Hydrogen

Question №186

What heterocyclic compound is in bile and has orange color?

1)	-	Uric acid
2)	+	Bilirubin
3)	-	Xanthine
4)	-	Vitamin B ₁₂
5)	-	Heme

Question №187

Adenine with thymine forms hydrogen bond in nucleic acids.

1)	-	One
----	---	-----

2)	-	Three
3)	+	Two
4)	-	Six
5)	-	Five
Question №188		
Which of the following is not a component of RNA?		
1)	-	Adenine
2)	-	Cytosine
3)	-	Phosphatene
4)	+	Thymine
		Thymine
5)	-	Guanine
Question №189		
Which of the following is purine base?		
1)	+	Guanine
2)	-	Indole
3)	-	Cytosine
4)	-	Thymine
5)	-	Uracil
Question №190		
Which of the following is a pyrimidine base?		
1)	-	Imidazole
2)	-	Guanine
3)	+	Cytosine
4)	-	Adenine
5)	-	Pyrene
Question №191		
How many nucleotides are needed to code for a specific amino acid?		
1)	+	Three
2)	-	One
3)	-	Two
4)	-	Four
5)	-	Five

Question №192

What are the repeating units of nucleic acids?

1)	+	Nucleotides
2)	-	Bases
3)	-	Sugar molecules
4)	-	Phosphate molecules
5)	-	Nucleosides

Question №193

Which of the following is NOT a valid comparison between DNA and RNA?

1)	+	Adenine - thymine
2)	-	Deoxyribose - ribose
3)	-	Double stranded - single stranded
4)	-	Found in nucleus - found in cytoplasm
5)	-	Adenine -uracil

Question №194

What does the t in tRNA represent?

1)	-	Translation
2)	-	Transpolymerase
3)	-	Transcription
4)	+	Transfer
5)	-	Transformation

Question №195

According to Chargaff's rule, the following proportion exists in DNA.

1)	+	C=G
2)	-	C»T
3)	-	C»G
4)	-	C=T
5)	-	C=U

Question №196

In DNA guanine always pairs with

1)	-	Adenine
2)	+	Cytosine
3)	-	Thymine
4)	-	Uracil

5)	-	Guanine
Question №197		
In DNA, thymine always pairs with		
1)	+	Adenine
2)	-	Cytosine
3)	-	Guanine
4)	-	Thymine
5)	-	Uracil
Question №198		
Each unit of a nucleic acid consisting of a sugar, attached phosphate group, and base is a		
1)	-	Nucleolus
2)	+	Nucleotide
3)	-	Histone
4)	-	Nucleosome
5)	-	Genetosome
Question №199		
DNA is made up of a phosphate group, an organic base, and:		
1)	-	A protein
2)	+	A sugar
3)	-	A molecule of ATP
4)	-	A fat
5)	-	None of the above
Question №200		
Which of the following is a purine base?		
1)	+	Adenine
2)	-	Cytosine
3)	-	Uracil
4)	-	Pyrrroleimine