

№	krok 2023
Topic	Medicines affecting the nervous, cardiovascular, visual and blood coagulation systems.
Task	Quantification of sodium benzoate expectorant is carried out using acidimetry in a non-aqueous medium. What reagent is used as a solvent for this purpose?
Correct answer	Anhydrous acetic acid
B	Benzene
C	Pyridine
D	Dimethylformamide
E	Dimethyl sulfoxide
№	krok 2023
Topic	Antibiotics of the aminoglycoside structure, amphenicols, other groups of antibiotics.
Task	Nitrofurazone (Furacillin) is a synthetic antibacterial agent. What parameter must be measured by an analytical pharmacist when quantifying this agent by means of spectrophotometry?
Correct answer	Optical density
B	Melting point
C	Angle of rotation
D	Refractive index
E	pH of a solution
№	krok 2023
Topic	Medicines affecting the nervous, cardiovascular, visual and blood coagulation systems.
Task	Adrenaline has two phenolic hydroxyl groups in its structure, which causes the chemical instability of the compound. What chemical process can occur, if this substance is stored improperly?
Correct answer	Oxidation
B	Reduction
C	Weathering

D	Polymerization
E	Hydrolysis
№	krok 2023
Topic	Pharmaceutical analysis
Task	Oak bark is standardized by its tannin content. What method is used to determine this group of bioactive substances according to the State Pharmacopoeia of Ukraine?
Correct answer	Titrimetry
B	Gravimetry
C	Spectrophotometry
D	Fluorimetry
E	Biological method
№	krok 2023
Topic	Medicines affecting the nervous, cardiovascular, visual and blood coagulation systems.
Task	An analytical pharmacist uses alkalimetry with potentiometric detection of the titration endpoint to quantify the lidocaine hydrochloride content. What solution is used as a titrant in this case?
Correct answer	Sodium hydroxide solution
B	Hydrochloric acid solution
C	Sodium nitrite solution
D	Potassium bromate solution
E	Cerium sulfate solution
№	krok 2023
Topic	Medicines affecting the nervous, cardiovascular, visual and blood coagulation systems.
Task	A laboratory conducts analysis of a phenylephrine hydrochloride substance (Mesatonum). What reagent is used to identify it?
Correct answer	Copper (II) sulfate
B	Potassium bromide

C	Sodium nitrate
D	Ammonium chloride
E	Magnesium sulfate
№	krok 2023
Topic	Chemical bases of action of medicines. Means affecting the central nervous system
Task	An analytical pharmacist at a quality control laboratory uses iodometry to quantify metamizole sodium. What indicator is used for this purpose?
Correct answer	Starch
B	Phenolphthalein
C	Ferrouin
D	Murexidc
E	Tropeolin 00
№	krok 2023
Topic	Antimicrobial medicines (chemotherapeutic medicines, antiseptics and disinfectants).
Task	To identify phenol, an analytical pharmacist used a reaction with a solution of sodium hypochlorite in an ammonia medium. As a result of this reaction, a blue substance formed. Name this compound.
Correct answer	Indophenol
B	Murexide
C	Thiochrome
D	Acrolein
E	Azo dye
№	krok 2023
Topic	Chemical bases of action of medicines. Means affecting the central nervous system
Task	Oxazepam is a benzodiazepine derivative. What method is used for its quantification?
Correct answer	Acidimetry in a non-aqueous medium
B	Reverse complexonometry

C	Alkalimetric substitution titration
D	Alkalimetry in an aqueous medium
E	Direct bromatometry
№	krok 2023
Topic	Derivatives of aromatic amino acids
Task	A chemical laboratory checks the quality of medicines. What substance can be quantitatively analyzed by determining the nitrogen after mineralization?
Correct answer	Glutamic acid
B	Sodium benzoate
C	Salicylic acid
D	Calcium gluconate
E	Ascorbic acid
№	krok 2023
Topic	Derivatives of aromatic amino acids
Task	A series of glutamic acid substance that is an optically active substance undergoes certification at an analytical and quality control laboratory. What parameter must be determined, if identification is being carried out using the polarimetry technique?
Correct answer	Angle of rotation
B	pH of a solution
C	Refractive index
D	Density
E	Optical density
№	krok 2023
Topic	Medicines affecting the nervous, cardiovascular, visual and blood coagulation systems.
Task	An analytical pharmacist identifies a hydrochlorothiazide substance. In this case, sulfate ion that formed after mineralization of the substance can be determined using the reaction with a certain solution. Name this solution.

Correct answer	Barium chloride solution
B	Cobalt nitrate solution
C	Sodium hydroxide solution
D	Silver nitrate solution
E	Copper(II) sulfate solution
№	krok 2023
Topic	Chemical bases of action of medicines. Means affecting the central nervous system
Task	Medicines with potassium bromide are used to treat insomnia. What solution must be used to identify potassium cations in such medicines?
Correct answer	Sodium cobaltnitrite
B	Silver nitrate
C	Potassium ferrocyanide
D	Barium chloride
E	Potassium pyroantimonate
№	krok 2023
Topic	Pharmaceutical analysis
Task	Based on its chemical structure, glycerol trinitrate antianginal agent (nitroglycerin) is a nitrate ester. What reaction is used to identify this substance by nitrate ions?
Correct answer	Hydrolysis
B	Dehydration
C	Pyrolysis
D	Oxidation
E	Decarboxylation
№	krok 2023
Topic	Antimicrobial medicines (chemotherapeutic medicines, antiseptics and disinfectants).
Task	Sulfadimethoxine is a sulfonamide antibacterial drug with a primary aromatic amino group. What method is used for its quantification?

Correct answer	Nitritometry
B	Argentometry
C	Iodometry
D	Acidimetry
E	Permanganatometry
№	krok 2023
Topic	Antimicrobial medicines (chemotherapeutic medicines, antiseptics and disinfectants).
Task	An expert at the laboratory of the pharmaceutical product certification center tests a chloramphenicol substance. What instrument must be used when determining the specific optical rotation?
Correct answer	Polarimeter
B	Potentiometer
C	Refractometer
D	Viscometer
E	Spectrophotometer
№	krok 2023
Topic	Antimicrobial medicines (chemotherapeutic medicines, antiseptics and disinfectants).
Task	An analytical pharmacist uses nitritometry to quantify a sulfathiazole antibacterial agent. This method was chosen because of the presence of a certain functional group. Name this group.
Correct answer	Primary aromatic amino group
B	Carboxylic group
C	Hydroxyl group
D	Sulfo group
E	Aldehyde group
№	krok 2023
Topic	Medicines affecting the nervous, cardiovascular, visual and blood coagulation systems.

Task	Atropine sulfate is a drug with a cholinolytic effect. A certain component in its structure makes it possible to quantify atropine sulfate using acidimetry in a non- aqueous medium. Name this structural component.
Correct answer	Tertiary nitrogen atom
B	Ester group
C	Phenyl radical
D	Alcohol hydroxyl
E	Bound sulfuric acid
№	krok 2023
Topic	Medicines of heterocyclic structure
Task	An analytical pharmacist analyzes an isoniazid substance. What method must be used for quantification of this substance?
Correct answer	Bromatometry
B	Argentometry
C	Acidimetry
D	Alkalimetry
E	Complexonometry
№	krok 2023
Topic	Pharmaceutical analysis
Task	Various chromatographic methods are used to control the quality of medical products. What type of chromatography is conducted on a sheet of filter paper, when mobile liquid phase moves on its surface and along its capillaries?
Correct answer	Thin-layer chromatography
B	Adsorption chromatography
C	Paper chromatography
D	Gas chromatography
E	Ion-exchange chromatography

№	krok 2023
Topic	Antimicrobial medicines (chemotherapeutic medicines, antiseptics and disinfectants).
Task	The structure of semisynthetic penicillins (amoxicillin trihydrate, ampicillin sodium) contains a fragment of α -amino acids. What reagent makes identification of this structural fragment possible?
Correct answer	Ninhydrin
B	Cyanobromide
C	Aniline
D	phenylamine
E	Formaldehyde
№	krok 2023
Topic	Chemical bases of action of medicines. Means affecting the central nervous system
Task	Alkalimetry in a non-aqueous medium is used for quantification of a phenobarbital substance. What reagent is used as a solvent for this purpose?
Correct answer	Dimethylformamide
B	Glacial acetic acid
C	Ethyl alcohol
D	Formic acid
E	Acetic anhydride
№	krok 2023
Topic	Medicines affecting the nervous, cardiovascular, visual and blood coagulation systems.
Task	In a laboratory for quality control of medical products, alkalimetry is used to determine ascorbic acid in a vitamin supplement. This method is based on a certain chemical process. Name this process.
Correct answer	Neutralization
B	Oxidation
C	Complexation

D	Reduction
E	Hydrolysis
№	krok 2023
Topic	Chemical bases of action of medicines. Means affecting the central nervous system
Task	An analytical pharmacist conducts an express analysis of a sedative mixture with sodium bromide. What method is used to quantify sodium bromide?
Correct answer	Argentometry
B	Nitritometry
C	Complexonometry
D	Acidimetry
E	Alkalimetry
№	krok 2023
Topic	Medicines that affect organ functions, metabolism and immunity.
Task	A laboratory for quality control of medical products certifies hormone drugs. What reagent is used to determine steroid cycles?
Correct answer	Concentrated sulfuric acid
B	Magnesium sulfate solution
C	Diluted nitric acid
D	Sodium nitrite solution
E	Diphenylamine solution
№	krok 2023
Topic	Medicines affecting the nervous, cardiovascular, visual and blood coagulation systems.
Task	An analytical pharmacist at a laboratory for quality control of medical products uses thioacetamide reagent to test a procaine hydrochloride substance. If this test produces a brown coloration, it indicates the presence of a certain admixture. Name this admixture.
Correct answer	Heavy metals
B	Aluminum

C	Calcium
D	Magnesium
E	Potassium
№	krok 2023
Topic	Antimicrobial medicines (chemotherapeutic medicines, antiseptics and disinfectants).
Task	An analytical pharmacist conducts an express analysis of a 2% boric acid solution. What method must be used in this case to quantify the active ingredient?
Correct answer	Alkalimetry
B	Argentometry
C	Nitritometry
D	Acidimetry
E	Complexonometry
№	krok 2023
Topic	Medicines that affect organ functions, metabolism and immunity.
Task	A pharmaceutical company produces hormonal drugs. What raw materials are used to obtain insulin?
Correct answer	Pancreas of cattle and pigs
B	Anterior lobe of the pituitary gland
C	Adrenal cortex
D	Posterior lobe of the pituitary gland
E	Thyroid gland
№	krok 2017-2018
Topic	General methods of medicines analysis by SPU
Task	An analyst of a chemical laboratory had received a glucose substance for analysis. To check its quality he used a polarimeter. The analyst measured:
Correct answer	Angle of rotation
B	Refractive index

C	Optical density
D	Melting point
E	Specific gravity
№	krok 2017-2018
Topic	Medicines of inorganic structure
Task	The analytical laboratory received calcium chloride. What volumetric solution should be used for quantitative determination of this medicinal substance?
Correct answer	Sodium edetate
B	Potassium bromate
C	Hydrochloric acid
D	Potassium permanganate
E	Sodium hydroxide
№	krok 2017-2018
Topic	Medicines from a group of vitamins, antibiotics and hormones, their semisynthetic and synthetic analogues
Task	An analytical chemist of a central industrial laboratory performs quantitative determination of penicillin sum in benzylpenicillin sodium salt by means of iodometric method. What indicator is used?
Correct answer	Starch
B	Phenolphthalein
C	Potassium chromate
D	Methyl orange
E	Methyl red
№	krok 2017-2018
Topic	Medicines of aliphatic, alicyclic and aromatic structure
Task	Paracetamol substance has been sent for analysis. Reaction with the solution of iron (III) chloride resulted in the blue-violet coloring. This indicates the presence of:

Correct answer	Phenolic hydroxyl
B	Aldehyde group
C	Keto group
D	Ester group
E	Alcoholic hydroxyl
№	krok 2017-2018
Topic	General methods of medicines analysis by SPU
Task	An analytical laboratory has received a procaine hydrochloride substance for analysis. According to the State Pharmacopoeia of Ukraine limit content of heavy metals should be determined with the following reagent:
Correct answer	Thioacetamide
B	Methoxyphenylacetic acid
C	Hypophosphite
D	Aminomethyl alizarin acetic acid
E	Sulfomolybdenum
№	krok 2017-2018
Topic	Medicines of inorganic structure
Task	Chloride of lime is identified by calcium cations after boiling with acetic acid in order to eliminate active chlorine. What reagent is used?
Correct answer	Ammonium oxalate
B	Magnesium sulfate
C	Potassium chloride
D	Sodium nitrite
E	Ammonium molybdate
№	krok 2017-2018
Topic	General methods of medicines analysis by SPU

Task	Optical rotation angle of substances is determined under the temperature of 20°C, in 1-decimeter-thick layer, with wavelength of sodium spectrum D-lines ($\lambda = 589.3 \text{ nm}$), and is calculated with reference to a solution containing 1 g of the substance per ml. It is called:
Correct answer	Specific optical rotation
B	Optical density
C	Refractive index
D	Relative density
E	Distribution coefficient
№	krok 2017-2018
Topic	Medicines from a group of vitamins, antibiotics and hormones, their semisynthetic and synthetic analogues
Task	Which of the following antibiotics can be identified by means of maltol test?
Correct answer	Streptomycin sulfate
B	Doxycycline hydrochloride
C	Amoxicillin
D	Lincomycin hydrochloride
E	Kanamycin monosulfate
№	krok 2017-2018
Topic	General methods of medicines analysis by SPU
Task	A pharmaceutical analyst identifies the substance of potassium acetate. What reagent confirms the presence of potassium cation in the substance?
Correct answer	Tartaric acid
B	Sodium hydroxide
C	Potassium permanganate
D	Iron (III) chloride
E	Zinc oxide

№	krok 2017-2018
Topic	Medicines of inorganic structure
Task	An analytical chemist performs the qualitative assessment of mercury (II) chloride. What method is recommended by the State Pharmacopoeia of Ukraine for quantitative assessment in this case?
Correct answer	Complexometric titration
B	Nitritometric titration
C	Bromatometry
D	Alkalimetry
E	Acidimetry
№	krok 2017-2018
Topic	Medicines of inorganic structure
Task	An analytical chemist investigates a 3% hydrogen solution. What reagent is recommended by the State Pharmacopoeia of Ukraine for identification of this substance?
Correct answer	Potassium chromate
B	Sodium chloride
C	Magnesium sulfate
D	Calcium chloride
E	Zinc oxide
№	krok 2017-2018
Topic	Medicines of aliphatic, alicyclic and aromatic structure
Task	Benzoic acid is known to have antiseptic properties. To identify this acid the following should be used:
Correct answer	$FeCl_3$
B	$[NH_4]_2C_2O_4$

C	$K_2[HgI_4]$
D	K_2CrO_4
E	$KMnO_4$
№	krok 2017-2018
Topic	Medicines of aliphatic, alicyclic and aromatic structure
Task	An analytical chemist analyses the substance of racemic menthol according to the State Pharmacopoeia of Ukraine. To identify the drug and determine its purity he measures optical rotation that should occur within the interval:
Correct answer	From $+0.2^\circ$ to -0.2°
B	From -48° to -51°
C	From $+50^\circ$ to $+56^\circ$
D	From $+10^\circ$ to $+13^\circ$
E	From -102° to -105°
№	krok 2017-2018
Topic	Medicines from a group of vitamins, antibiotics and hormones, their semisynthetic and synthetic analogues
Task	Presence of phenolic hydroxyl in the structure of pyridoxine hydrochloride can be confirmed by application of the following solution:
Correct answer	Iron (III) chloride
B	Potassium permanganate
C	Sodium sulfate
D	Silver nitrate
E	Sodium nitrite
№	krok 2017-2018
Topic	General methods of medicines analysis by SPU

Task	An analytical chemist can quantitatively determine the thiamine bromide content in powders by means of:
Correct answer	Alkalimetry
B	Nitritometric titration
C	Bromometry
D	Permanganatometry
E	Complexometric titration
№	krok 2017-2018
Topic	Medicines from a group of carbohydrates, glycosides, alkaloids, their semisynthetic and synthetic analogues
Task	Quantitative content of theophylline can be determined by alkalimetric titration of nitric acid that is quantitatively obtained as the result of the following theophylline salt production:
Correct answer	Silver
B	Potassium
C	Sodium
D	Ammonium
E	Lithium
№	krok 2017-2018
Topic	Medicines of heterocyclic structure
Task	In the process of isoniazid identification a pharmacy analyst thoroughly boiled the substance with 2,4-dinitrochlorobenzene. The substance turned yellow. After adding alkaline solution the substance turned first violet and then brownish-red. As the result of this reaction the following aldehyde derivative is produced:
Correct answer	Glutaconic
B	Gluconic
C	Glutamic

D	Glyoxylic
E	Hexanic
№	krok 2017-2018
Topic	General methods of medicines analysis by SPU
Task	What method is recommended by the State Pharmacopoeia of Ukraine for quantitative determination of potassium chloride substance that is used in treatment of hypokalemia?
Correct answer	Argentometry
B	Bromatometry
C	Iodometry
D	Cerimetry
E	Polarimetry
№	krok 2017-2018
Topic	General methods of medicines analysis by SPU
Task	During limit test for aluminium admixture, the State Pharmacopoeia of Ukraine recommends to use the following solution as the basic reagent:
Correct answer	Hydroxyquinoline
B	Sodium tetraphenylborate
C	Thioglycolic acid
D	Sodium hypophosphite
E	Barium chloride
№	krok 2017-2018
Topic	General methods of medicines analysis by SPU
Task	Presence of nitrate radical in metronidazole structure can be confirmed by reduction of nitrate radical to amino group with production of:
Correct answer	Azo dye
B	Indophenol
C	Thiochrome

D	Iodoform
E	Murexide
№	krok 2017-2018
Topic	Medicines of aliphatic, alicyclic and aromatic structure
Task	Xycaine quantitative content can be determined by means of argentometry (back titration). What indicator is required by this method?
Correct answer	Iron (III) ammonium sulphate
B	Sodium eosinate
C	Bromphenol blue
D	Starch
E	Potassium chromate
№	krok 2017-2018
Topic	Medicines of heterocyclic structure
Task	An analytical chemist performs quantitative analysis of isoniazid by means of direct bromatometry with volumetric solutions of potassium bromate, potassium bromide, hydrochloric acid and methyl red as an indicator. This method is based on the following reaction:
Correct answer	Oxidation of the hydrazine group with bromine
B	Reduction of the hydrazine residue with bromine
C	Oxidation of the hydrazine residue with potassium bromide
D	Opening of the pyridine ring
E	Bromination of the pyridine ring
№	krok 2017-2018
Topic	Medicines from a group of vitamins, antibiotics and hormones, their semisynthetic and synthetic analogues
Task	The main method of quantitative determination of corticosteroids is:
Correct answer	Spectrophotometry

B	Potentiometry
C	Cerimetry
D	Argentometry
E	Acidimetry
№	krok 2017-2018
Topic	Medicines of aliphatic, alicyclic and aromatic structure
Task	According to the State Pharmacopoeia of Ukraine, an analytical chemist determines quantitative content of potassium acetate by means of acidimetry in non-aqueous medium. Name the volumetric solution in this case:
Correct answer	Perchloric acid
B	Iodine
C	Potassium bromate
D	Sodium hydroxide
E	Sodium nitrite
№	krok 2017-2018
Topic	Medicines of aliphatic, alicyclic and aromatic structure
Task	The chemical name of 2,2- (diphenylmethoxy)-N,N-dimethyl-ethanamine hydrochloride corresponds with the following medicinal substance:
Correct answer	Diphenhydramine hydrochloride
B	Ethylmorphine hydrochloride
C	Lidocaine hydrochloride
D	Ciprofloxacin hydrochloride
E	Papaverine hydrochloride
№	krok 2017-2018
Topic	General methods of medicines analysis by SPU
Task	An analytical chemist should use the following solution to identify sodium- containing substances:

Correct answer	Potassium pyroantimonate
B	Potassium permanganate
C	Sodium citrate
D	Potassium carbonate
E	Barium hydroxide
№	krok 2017-2018
Topic	Medicines of inorganic structure
Task	An analytical chemist performs collargol identification by means of ashing. Obtained residue is then dissolved in hydrochloric acid. Specify the analytical effect that is observed in this case:
Correct answer	White precipitate
B	Black precipitate
C	Yellow precipitate
D	Blue precipitate
E	Light green precipitate
№	krok 2017-2018
Topic	Medicines of aliphatic, alicyclic and aromatic structure
Task	Calcium gluconate is being tested for presence of admixtures of saccharose and reducing sugars with copper tartrate reagent. If these admixtures are present the substance colors:
Correct answer	Red
B	Blue
C	Green
D	Turquoise
E	White
№	krok 2017-2018
Topic	Medicines of aliphatic, alicyclic and aromatic structure

Task	The analyst determines quantitative content of sodium benzoate by means of acidimetry in non-aqueous medium according to the State Pharmacopoeia of Ukraine. What reagent is used as a solvent in this case?
Correct answer	Anhydrous acetic acid
B	Pyridine
C	Concentrated sulfuric acid
D	Dimethyl formamide
E	Sulfanilic acid
№	krok 2017-2018
Topic	Medicines from a group of vitamins, antibiotics and hormones, their semisynthetic and synthetic analogues
Task	What antibiotic has beta-lactam cycle in its structure?
Correct answer	Benzylpenicillin potassium salt
B	Doxycycline hyclate
C	Chloramphenicol
D	Streptomycin sulfate
E	Lincomycin hydrochloride
№	krok 2017-2018
Topic	Medicines of heterocyclic structure
Task	The chemical name of 2-benzyl-1H- benzimidazole hydrochloride corresponds with the following medicinal substance:
Correct answer	Dibazol (Bendazolium)
B	Omeprazole
C	Indometacin
D	Phenazepam
E	Vicasol (Menadione)
№	krok 2017-2018

Topic	General methods of medicines analysis by SPU
Task	Identification of potassium iodide requires performing an oxidation reaction in acid medium, which produces free iodine that colors chloroform layer. What reagent is used for such a reaction?
Correct answer	Sodium nitrite
B	Silver nitrate
C	Barium chloride
D	Sodium carbonate
E	Ammonium oxalate
№	krok 2017-2018
Topic	General methods of medicines analysis by SPU
Task	An analytical chemist determines potassium ions admixture in a medicinal substance with sodium tetraphenylborate according to the State Pharmacopoeia of Ukraine. What analytical effect would confirm the presence of this admixture?
Correct answer	White opalescence
B	Yellow coloring
C	Blue coloring
D	Pink coloring
E	Brown coloring
№	krok 2017-2018
Topic	Medicines from a group of vitamins, antibiotics and hormones, their semisynthetic and synthetic analogues
Task	What corticosteroid medicinal substance has two fluorine atoms in its chemical structure?
Correct answer	Fluocinolone acetonide
B	Dexamethasone
C	Triamcinolone acetonide

D	Prednisolone
E	Hydrocortisone acetate
№	krok 2017-2018
Topic	Medicines from a group of vitamins, antibiotics and hormones, their semisynthetic and synthetic analogues
Task	A private pharmacy received a supply of a drug with 2.3-dihydro-2-methyl-1.4- naphthoquinone-2-sulfonate sodium as an active ingredient. Name this drug:
Correct answer	Vicasol (Menadione)
B	Rutin
C	Riboflavin
D	Ergocalciferol
E	Cocarcboxylase hydrochloride
№	krok 2017-2018
Topic	Medicines from a group of carbohydrates, glycosides, alkaloids, their semisynthetic and synthetic analogues
Task	The reaction of glucose identification produces red precipitate with the following reagent:
Correct answer	Copper-tartrate
B	Thiocyanogen bromide
C	Ammoniacal silver nitrate solution
D	Alkaline potassium tetraiodomercurate solution
E	Sodium nitroprusside solution
№	krok 2017-2018
Topic	Medicines from a group of vitamins, antibiotics and hormones, their semisynthetic and synthetic analogues
Task	During quantitative determination of Vicasol (Menadione) by means of cerimetry, the following indicator is used:

Correct answer	Ferroin
B	Naphtholbenzein
C	Crystal violet
D	Methyl orange
E	Methyl red
№	krok 2017-2018
Topic	Pharmaceutical chemistry
Task	As the result of reduction of alcoholic solutions of 5-nitrofurane derivatives by means of their reaction with zinc in the presence of diluted hydrochloric acid, the following occurs:
Correct answer	Solution decoloration
B	Precipitation
C	Ammonia production
D	Color change from yellow to black
E	Precipitation and gassing
№	krok 2017-2018
Topic	Pharmaceutical chemistry
Task	A certain drug explodes when heated to 180°C or upon impact and, therefore, must be handled carefully during receipt and storage. This drug is:
Correct answer	Nitroglycerine solution
B	Activated carbon
C	Alcoholic iodine solution
D	Barium chloride
E	Calcium chloride
№	krok 2017-2018
Topic	Pharmaceutical chemistry

Task	A certain drug can be quantitatively assessed by means of direct alkalimetry in glycerine, mannitol, or other polyhydric alcohol medium. This drug is:
Correct answer	Boric acid
B	Benzoic acid
C	Salicylic acid
D	Glutaminic acid
E	Acetylsalicylic acid
№	krok 2017-2018
Topic	Pharmaceutical chemistry
Task	Bromatometry allows quantitative analysis of the following drug:
Correct answer	Sodium salicylate
B	Glutamic acid
C	β -Alanine
D	Benzoic acid
E	Potassium acetate
№	krok 2017-2018
Topic	Pharmaceutical chemistry
Task	What drug, due to β -lactam ring in its structure, has positive reaction with hydroxylamine hydrochloride solution in the presence of sodium hydroxide with subsequent addition of iron (III) chloride solution?
Correct answer	Amoxicillin trihydrate
B	Metronidazole
C	Papaverine hydrochloride
D	Phenazone
E	Dibazol (Bendazol)
№	krok 2017-2018
Topic	Pharmaceutical chemistry

Task	A technological controller uses Marquis reagent to identify the substance of acetylsalicylic acid after acid hydrolysis. Positive effect of the reaction would be indicated by the following coloring:
Correct answer	Pink
B	Blue
C	Yellow
D	Green
E	Violet
№	krok 2017-2018
Topic	Pharmaceutical chemistry
Task	Nicotinamide is a pyridine derivative, which can be identified by its positive reaction with:
Correct answer	Cyanogen bromide reagent
B	Copper-tartrate solution
C	Grade reagent
D	Thioacetamide reagent
E	Thioglycolic acid solution
№	krok 2017-2018
Topic	Pharmaceutical chemistry
Task	According to the State Pharmacopoeia of Ukraine, an analytical chemist should use acidimetry in non-aqueous medium to determine quantitative content of the following purine alkaloid:
Correct answer	Caffeine
B	Theobromine
C	Caffeine and sodium benzoate
D	Theophylline ethylenediamine
E	Theophylline

№	krok 2017-2018
Topic	Pharmaceutical chemistry
Task	An analytical chemist performs identification of lidocaine hydrochloride. According to the State Pharmacopoeia of Ukraine the presence of chloride ions can be confirmed by means of reaction with silver nitrate solution resulting in:
Correct answer	White caseous precipitate
B	Green fluorescence
C	Violet coloring
D	Yellow precipitate
E	Blue coloring
№	krok 2017-2018
Topic	Pharmaceutical chemistry
Task	According to the State Pharmacopoeia of Ukraine, an analytical chemist can determine sulfate admixtures in sodium tetraborate by the effect of white opalescence that results from its reaction with the following solution:
Correct answer	Barium chloride
B	Ammonium oxalate
C	Magnesium sulfate
D	Sodium sulfide
E	Silver nitrate
№	krok 2017-2018
Topic	Pharmaceutical chemistry
Task	According to the State Pharmacopoeia of Ukraine quantitative content of salicylic acid is to be determined by means of:
Correct answer	Alkalimetry
B	Nitritometric titration
C	Complexometric titration

D	Acidimetry
E	Argentometry
№	krok 2017-2018
Topic	Pharmaceutical chemistry
Task	An analytical chemist conducts quantitative determination of ibuprofen (substance) by means of direct alkalimetry. The following solution will be an indicator in this case:
Correct answer	Phenolphthalein
B	Tropeolin 00
C	Mordant black
D	Potassium chromate
E	Ammonium iron (III) sulfate
№	krok 2017-2018
Topic	Pharmaceutical chemistry
Task	What indicator is used in iodometry for quantitative determination of caffeine in caffeine and sodium benzoate?
Correct answer	Starch
B	Potassium chromate
C	Eriochrome black
D	Methyl orange
E	Bromthymol blue
№	krok 2017-2018
Topic	Pharmaceutical chemistry
Task	To identify pilocarpine hydrochloride it is necessary to use reaction with sodium nitroprusside in an alkaline medium (Legal's test). Resulting cherry-red coloring confirms presence of the following in the pilocarpine structure:
Correct answer	Lactonic ring
B	Imidazole ring

C	Methylene group
D	Chloride ions
E	Methyl group
№	krok 2017-2018
Topic	Pharmaceutical chemistry
Task	According to the State Pharmacopoeia of Ukraine, phthalylsulfathiazole is quantitatively determined by means of alkalimetry in non-aqueous medium. The following substance is used as a solvent in this case:
Correct answer	Dimethyl formamide
B	Anhydrous acetic acid
C	Ethyl alcohol
D	Benzene
E	Chloroform
№	krok 2017-2018
Topic	Pharmaceutical chemistry
Task	A control laboratory needs to analyze streptomycin powder for injections. According to the State Pharmacopoeia of Ukraine, to identify it sodium hydroxide is added into the dissolved powder, the resulting substance is heated, and then iron (III) chloride solution is added, which results in violet coloring of the substance. This test is known as:
Correct answer	Maltol test
B	Ninhydrin test
C	Vitali-Morin reaction
D	Biuret test
E	Thiochrome test
№	krok 2014, 2013
Topic	General methods of medicines analysis by SPU

Task	A pharmaceutical analyst identifies the substance of potassium acetate. What reagent confirms the presence of potassium cation in the analyte?
Correct answer	Tartaric acid
B	Sodium hydroxide
C	Potassium permanganate
D	Iron (III) chloride
E	Zinc oxide
№	krok 2014
Topic	Medicines from a group of carbohydrates, glycosides, alkaloids, their semisynthetic and synthetic analogues
Task	An analytical laboratory has been commissioned to prove the presence of ethylenediamine in aminophylline. Which of the following reagents makes it possible to detect ethylenediamine?
Correct answer	Copper (II) sulfate
B	Sodium hydroxide
C	Concentrated sulfuric acid
D	Silver nitrate
E	Barium chloride
№	krok 2014
Topic	General methods of medicines analysis by SPU
Task	A pharmaceutical analyst tests potassium bromide for magnesium and alkaline earth metals impurity. What solution is used for this purpose?
Correct answer	Sodium edetate
B	Potassium permanganate
C	Hydrochloric acid
D	Silver nitrate
E	Sodium nitrite

№	krok 2014, 2013
Topic	General methods of medicines analysis by SPU
Task	Under the SPh of Ukraine, one of the reactions for the detection of calcium cation presence in drugs is the reaction with:
Correct answer	Glyoxal-hydroxyanil
B	Hydroxyquinoline
C	Hydroxylamine
D	Alizarin
E	Sulfuric acid
№	krok 2014
Topic	General methods of medicines analysis by SPU
Task	An analytical chemist of the quality control department of a pharmaceutical plant can prove the presence of the cation in the test substance with a solution of potassium:
Correct answer	Pyroantimonate
B	Chloride
C	Ferrocyanide (III)
D	Hydroxide
E	Nitrate
№	krok 2014
Topic	Medicines of inorganic structure
Task	Magnesium peroxide identification is performed by the reaction of perchromic acid formation. What color is produced as a result of this reaction?
Correct answer	Blue
B	Red
C	Green
D	Black
E	Yellow

№	krok 2014
Topic	Medicines of inorganic structure
Task	Under the SPhU, the pharmacopeial preparation "Aether anaestheticus" is not allowed to have peroxide impurity. What reagent should be used to detect peroxides?
Correct answer	Solution of starch and potassium iodide
B	Solution of starch and potassium tetraiodomercurate
C	Solution of starch and potassium bromide
D	Grade reagent
E	Lugol's reagent
№	krok 2014
Topic	General methods of medicines analysis by SPU
Task	A pharmaceutical analyst tests anhydrous glucose for purity according to the requirements of the SPhU. Inadmissible barium impurity can be detected by using the following acid:
Correct answer	Sulphuric
B	Hydrochloric
C	Acetic
D	Nitric
E	Perchloric
№	krok 2014
Topic	Medicines of heterocyclic structure
Task	The chemical name 1-benzoyl-5-ethyl-5-phenyl-barbituric acid stands for the following substance relating to barbiturates:
Correct answer	Benzonal
B	Barbital
C	Phenobarbital
D	Hexenal

E	Benzobamil
№	krok 2014
Topic	Medicines of heterocyclic structure
Task	As a result of condensation of substituted malonic esters and urea the derivatives of the following substance are obtained:
Correct answer	Pyrimidine
B	Pyridazine
C	Pyrazole
D	Pyridine
E	Pyrazine
№	krok 2014
Topic	General methods of medicines analysis by SPU
Task	A pharmaceutical analyst analyzes a dosage form containing zinc sulfate. What reagent enables him to confirm the presence of the zinc cation in the analyte?
Correct answer	Sodium sulfide
B	Ammonium chloride
C	Potassium ferrocyanide
D	Silver nitrate
E	Sodium tetraphenylborate
№	krok 2014
Topic	General methods of medicines analysis by SPU
Task	A pharmaceutical analyst added solutions of zirconyl nitrate and alizarin to a drug substance. The reaction produced red color turning into yellow. Specify the analyte:
Correct answer	Sodium fluoride
B	Sodium chloride
C	Sodium bromide
D	Sodium iodide

E	Sodium thiosulfate
№	krok 2016
Topic	Medicines from a group of carbohydrates, glycosides, alkaloids, their semisynthetic and synthetic analogues
Task	A chemical laboratory received a drug that is a mixture of glucose and mannose. To identify these substances in the mixture the following method can be applied:
Correct answer	Thin-layer sorbent chromatography
B	Polarimetry
C	Spectrophotometry
D	Polarography
E	Amperometric titration
№	krok 2016
Topic	Medicines of aliphatic, alicyclic and aromatic structure
Task	Sulfanilamide drugs contain primary aromatic amides in their structure. Specify the method of quantitative determination of these compounds:
Correct answer	Nitritometry
B	Iodometry
C	Dichromatometry
D	Permanganatometry
E	Cerimetry
№	krok 2016
Topic	Medicines of aliphatic, alicyclic and aromatic structure
Task	Which of the following reactions is required to obtain an azo dye out of an aromatic amine?
Correct answer	Diazotization and azo compound
B	Reduction and diazotization
C	Diazotization and interaction with potassium cyanide

D	Salt formation and nitration
E	Alkylation and nitrosation
№	krok 2016
Topic	General methods of medicines analysis by SPU
Task	Reaction of sodium ions with potassium hexahydroxoantimonate in neutral medium produces precipitate. Specify the color of this precipitate:
Correct answer	White
B	Red
C	Yellow
D	Green
E	Blue
№	krok 2015
Topic	General methods of medicines analysis by SPU
Task	In the process of silver cations identification reaction HCl and then ammonia solution have been added to the solution. What compound has been produced as a result?
Correct answer	$[Ag(NH_3)_2]Cl$
B	$[Ag_2(NH_3)_3]Cl$
C	Ag
D	$AgCl$
E	$[Ag(NH_3)_3]Cl$
№	krok 2015
Topic	Medicines of aliphatic, alicyclic and aromatic structure
Task	Mass fraction of pharmaceutical preparations that contain aromatic amino groups is determined through nitrite titration. What external indicator is used in this case?
Correct answer	Starch-iodide paper
B	Methylene red

C	Eriochrome Black T
D	Phenolphthalein
E	Eosin
№	krok 2015
Topic	Medicines of inorganic structure
Task	Preparations of colloid silver - Protargol (silver proteinate) and Collargol (colloid silver) - contain proteins besides their active substance. What is the function of proteins in these preparations?
Correct answer	Protection of colloid solution against coagulation
B	Increased storage time
C	Decreased side effects
D	Improved preparation technology
E	Increased bactericidal action of silver
№	krok 2014
Topic	Medicines of aliphatic, alicyclic and aromatic structure
Task	A pharmacist prepared an injectable solution of novocaine. What stabilizer had been used?
Correct answer	Hydrochloric acid solution
B	Sodium bicarbonate solution
C	Stabilizer of Weibel
D	Sodium sulfite solution
E	Sodium thiosulfate solution
№	krok 2014
Topic	Medicines of heterocyclic structure
Task	Quantitative determination of pyridine derivatives is performed by acidimetry in nonaqueous medium. What titrant is used for this purpose?
Correct answer	Perchlorate acid

B	Sulfuric acid
C	Nitric acid
D	Sodium hydroxide
E	Sodium thiosulfate
№	krok 2014, 2013
Topic	General methods of medicines analysis by SPU
Task	In order to detect the presence of thiosulfate ions a pharmaceutical analyst added the excess reagent. The resulting reaction produced a white precipitate which was slowly turning yellow, then brown, and black. What solution was added?
Correct answer	Silver nitrate
B	Barium chloride
C	Ammonium oxalate
D	Lead (II) acetate
E	Diphenylamine
№	krok 2014
Topic	Medicines of inorganic structure
Task	Quantitative analysis of boric acid can be performed by alkalimetric ti-tration in the presence of:
Correct answer	Mannitol
B	Ethyl alcohol
C	Ammonia buffer
D	Mercury (II) acetate
E	Nitric acid
№	krok 2014
Topic	General methods of medicines analysis by SPU

Task	An analytical chemist of the quality control department of a pharmaceutical plant has to determine the average weight of glibenclami-de tablets. How many tablets should be tested for this purpose?
Correct answer	20
B	10
C	5
D	50
E	30
№	krok 2014
Topic	Medicines from a group of vitamins, antibiotics and hormones, their semisynthetic and synthetic analogues
Task	In order to identify deoxycorti-costerone acetate a pharmaceutical analyst performed a steroid cycle reaction which produced cherry-red color and green fluorescence. What reagent was added?
Correct answer	Concentrated sulfuric acid
B	Iodine solution
C	Iron (III) chloride solution
D	Chloroform
E	Potassium hydroxide solution
№	krok 2014
Topic	Medicines from a group of vitamins, antibiotics and hormones, their semisynthetic and synthetic analogues
Task	Which of the following antibiotics can be identified by means of the maltol formation test?
Correct answer	Streptomycin sulfate
B	Doxycycline hydrochloride
C	Amoxicillin

D	Lincomycin hydrochloride
E	Kanamycin monosulfate
№	krok 2014
Topic	Medicines of inorganic structure
Task	A pharmaceutical analyst has to test the substance of iron sulfate heptahydrate for purity. What reagent should be used to detect zinc cation in the substance?
Correct answer	Potassium ferrocyanide
B	Silver nitrate
C	Barium chloride
D	Ammonium oxalate
E	Sodium tetraphenylborate
№	krok 2014
Topic	Medicines of heterocyclic structure
Task	A pharmaceutical analyst performs the identification of phthalylsulphathiazole (phthalazol). In compliance with the SPhU requirements, the substance is to be heated with resorcinol in the presence of sulfuric acid. The subsequent addition of sodium hydroxide and water results in:
Correct answer	Intensive green fluorescence
B	Abundant white precipitate
C	Red-violet color
D	Extensive yellow precipitate
E	Intensive blue color
№	krok 2014
Topic	General methods of medicines analysis by SPU
Task	Under the SPhU, presence of ammonium salts in sodium tetraborate can be detected by method A by using a solution of the following substance:
Correct answer	Alkaline potassium tetraiodomercurate

B	Sodium tetraphenylborate
C	Barium chloride
D	Potassium ferrocyanide
E	Silver nitrate
№	krok 2014
Topic	Medicines of aliphatic, alicyclic and aromatic structure
Task	A pharmaceutical analyst performs the identification test of lidocaine hydrochloride under the SPhU. The identity is determined by the melting point of precipitate which is produced as a result of reaction with a solution of the following acid:
Correct answer	Picric
B	Acetic
C	Thioglycolic
D	Citric
E	Phosphoric
№	krok 2012
Topic	Medicines from a group of vitamins, antibiotics and hormones, their semisynthetic and synthetic analogues
Task	An analytical chemist working at a pharmacy identifies oxacillin sodium salt. As a reagent he uses hydroxylamine hydrochloride solution in presence of sodium hydroxide solution and copper nitrate solution. What structural fragment of a drug molecule can be detected by means of these reagents?
Correct answer	Beta-lactam cycle
B	Thiazolidine cycle
C	Isoxazole cycle
D	Furan cycle
E	Thiadiazole cycle
№	krok 2012

Topic	Medicines of inorganic structure
Task	Diethyl ether relates to simple ethers. Prior to its identification by using the boiling temperature an analytical chemist must ensure that there are no:
Correct answer	Peroxides
B	Reducing substances
C	Alcohols
D	Non-volatile residue
E	Carboxylic acids
№	krok 2012
Topic	Medicines of inorganic structure
Task	In order to detect peroxides in the anesthetic ether an analytical chemist should use the following reagent:
Correct answer	Potassium iodide
B	Potassium chloride
C	Potassium permanganate
D	Sodium thiosulfate
E	Sodium hydroxide
№	krok 2012, 2009
Topic	General methods of medicines analysis by SPU
Task	A pharmacy analyst can verify presence of iron cation (II) in a drug formulation by means of the following solution:
Correct answer	Ammonium sulfide
B	Sodium chloride
C	Magnesium sulfate
D	Potassium bromide
E	Sodium phosphate
№	krok 2012, 2010

Topic	Medicines from a group of carbohydrates, glycosides, alkaloids, their semisynthetic and synthetic analogues
Task	When the glucose is heated with the copper tartrate reagent (Fehling's reagent) the brick-red precipitate settles down. It indicates presence of the following group:
Correct answer	Aldehyde
B	Ketonic
C	Carboxyl
D	Etherific
E	Amide
№	krok 2012
Topic	Medicines of aliphatic, alicyclic and aromatic structure
Task	In order to identify a drug an analytical chemist of the State Inspectorate for Quality Control of Medicines carries out the reaction with ninhydrin solution. Specify the drug to be identified:
Correct answer	Methionine
B	Cortisone acetate
C	Paracetamol
D	Streptocide
E	Ascorbic acid
№	krok 2012
Topic	Medicines from a group of carbohydrates, glycosides, alkaloids, their semisynthetic and synthetic analogues
Task	Select a reagent that should be applied by an analytical chemist in order to detect alkaloids in the herbal raw material:
Correct answer	Dragendorff reagent
B	Bromine water
C	Alkaline solution

D	Stahl's reagent
E	Trim-Hill reagent
№	krok 2012
Topic	Medicines of aliphatic, alicyclic and aromatic structure
Task	Prior hydrolysis is necessary in case of quantitative determination of the following drug by the nitritometric titration:
Correct answer	Paracetamol
B	Anesthesin
C	Procaine hydrochloride
D	Sodium p-aminosalicylate
E	Dicaine
№	krok 2012, 2011
Topic	Medicines of inorganic structure
Task	An analytical chemist determines the admixture of sulphates in the boric acid. What is the main reagent to be added?
Correct answer	Barium chloride
B	Sodium sulphide
C	Potassium ferrocyanide
D	Silver nitrate
E	Ammonium oxalate
№	krok 2012
Topic	General methods of medicines analysis by SPU
Task	Specify the reaction to the ester-type drugs that is tolerated by the State Pharmacopoeia of Ukraine:
Correct answer	Formation of iron hydroxamates
B	Formation of azo dye
C	Formation of indophenol

D	Formation of 3-bromphenol
E	-
№	krok 2012
Topic	Medicines of aliphatic, alicyclic and aromatic structure
Task	Streptocide, sulfacyl sodium, norsulfazole or sulfadimezinum can be identified by means of the reaction to form:
Correct answer	Azo dye
B	Murexide
C	Iodoform
D	Fluorescein
E	-
№	krok 2012
Topic	Medicines of heterocyclic structure
Task	Which of the following drugs can be quantified by an analytical chemist by ceriometry method?
Correct answer	Vicasolum
B	Acetylsalicylic acid
C	Sodium benzoate
D	Phenyl salicylate
E	Phenobarbital
№	krok 2012
Topic	General methods of medicines analysis by SPU
Task	An analytical chemist determines the quantity of a drug by the method of indirect bromatometry. Which of the following titrated solutions is to be used?
Correct answer	Sodium thiosulfate
B	Calcium bromate
C	Sodium metate

D	Sodiumnitrite
E	Silver nitrate
№	krok 2012
Topic	Medicines of aliphatic, alicyclic and aromatic structure
Task	In order to identify a drug an analytical chemist of the State Inspectorate for Quality Control performs a lignin test. Specify this drug:
Correct answer	Streptocid
B	Ascorbic acid
C	Cortisone acetate
D	Methionine
E	Analgin
№	krok 2012
Topic	General methods of medicines analysis by SPU
Task	An analytical chemist working at an analytical laboratory identifies a drug by the sulfite ions according to the requirements of the State Pharmacopoeia of Ukraine. What reagent gets decolorized during this assay?
Correct answer	Iodine solution
B	Iron (III) chloride solution
C	Ammonia solution
D	Potassium iodide solution
E	Potassium nitrate solution
№	krok 2012
Topic	Medicines of aliphatic, alicyclic and aromatic structure
Task	An analytical laboratory received " <i>Aetheranaestheticus</i> " for analysis. What reagent should be used for detecting acetone and aldehyde impurities according to the State Pharmacopoeia of Ukraine?
Correct answer	Alkaline solution of potassium tetraiodomercurate

B	Ammonium solution of argentum nitrate
C	Aqueous solution of potassium iodide
D	Sodium hydrosulfite solution
E	Hydroxylamine solution
№	krok 2012
Topic	Medicines from a group of carbohydrates, glycosides, alkaloids, their semisynthetic and synthetic analogues
Task	In order to identify ouabain (strophanthine G), a drug from the group of cardiac glycosides, an analytical chemist must prove the presence of a steroid cycle. What acid should be used as a reagent?
Correct answer	Sulfuric
B	Oxalic
C	Citric
D	Formic
E	Chromotropic
№	krok 2012
Topic	Medicines of inorganic structure
Task	An analytical laboratory has to analyze ferrous sulfate heptahydrate according to the State Pharmacopoeia of Ukraine. A test portion of the substance should be titrated with the following solution:
Correct answer	Ammonium cerium sulfate
B	Silver nitrate
C	Ammonium thiocyanate
D	Sodium edetate
E	Potassium bromate
№	krok 2012, 2010
Topic	General methods of medicines analysis by SPU

Task	As main reagent in test for phosphates admixtures the Ukrainian State Pharmacopoeia recommends to use:
Correct answer	Sulfomolybdenum
B	Cupric tartrate
C	Thioacetamide
D	Acetylacetone
E	Hypophosphite
№	krok 2012, 2011
Topic	General methods of medicines analysis by SPU
Task	A common method for quantitative determination of drugs from the group of alkali metal halogenides is:
Correct answer	Argentometry
B	Permanganometry
C	Chelatometry
D	Alkalimetry
E	Nitritometry
№	krok 2012, 2011
Topic	General methods of medicines analysis by SPU
Task	Select the reductant required for the determination of arsenic impurity in drugs (method 2):
Correct answer	Sodium hypophosphite
B	Hydrochloric acid solution
C	Sodium sulfite solution
D	Sodium hydroxide solution
E	Potassium iodide solution
№	krok 2012, 2011

Topic	Medicines from a group of carbohydrates, glycosides, alkaloids, their semisynthetic and synthetic analogues
Task	A pharmacy produces some injection solutions that have to be apyrogenic. Solution of the following substance can be depyrogenized by method of adsorption with activated carbon?
Correct answer	Glucose
B	Atropine sulfate
C	Papaverine hydrochloride
D	Scopolamine hydrobromide
E	Platyphyllinihydrotartras
№	krok 2012, 2011, 2010
Topic	Medicines of heterocyclic structure
Task	In course of isoniazid identification a pharmacy analyst boiled thoroughly the substance with 2,4-dinitrochlorobenzene. The substance turned yellow, after adding alkaline solution it turned first violet and then brownishred. As a result of this reaction the following aldehyde derivative is produced:
Correct answer	Glutaconic
B	Gluconic
C	Glutamic
D	Glyoxylic
E	Hexanic
№	krok 2012, 2009
Topic	Medicines from a group of carbohydrates, glycosides, alkaloids, their semisynthetic and synthetic analogues

Task	In order to verify identity of tropan derivatives, Vitali's reaction is applied. For that purpose the medications should be first decomposed with nitric acid and then treated with alcoholic solution of potassium hydroxide and acetone. What effect will be observed?
Correct answer	The solution will turn purple
B	The solution will turn green
C	Emission of gas bubbles
D	Setting of black precipitate
E	Setting of white precipitate
№	krok 2012, 2009
Topic	Medicines of aliphatic, alicyclic and aromatic structure
Task	What substance will impede reaction of iodoform test aimed at detection of ethyl alcohol in the biological material?
Correct answer	Acetone
B	Methanol
C	Isoamyl alcohol
D	Phenol
E	Formaldehyde
№	krok 2012
Topic	Medicines of heterocyclic structure
Task	Analgin substance has been sent for analysis. What method allows to evaluate quantitative content of analgin?
Correct answer	Iodometry
B	Acidimetry
C	Alkalimetry
D	Chelatometry
E	Permanganatometry

№	krok 2011, 2010
Topic	General methods of medicines analysis by SPU
Task	A pharmacy analyst analyzes distilled water. For this purpose he brings some amount of the sample material to the boiling point, adds 0,02 M solution of potassium permanganate and diluted sulfuric acid. After 5 minutes of boiling the pink colour of the produced solution should not change. The pharmacy analyst tries to detect the following admixture:
Correct answer	Chemical reducing agent
B	Carbon dioxide
C	Nitrates
D	Sulfates
E	Heavy metals
№	krok 2011, 2010
Topic	Medicines of aliphatic, alicyclic and aromatic structure
Task	An analytical laboratory carries out quantitative analysis of sodium citrate by method of ionexchanging chromatography on a cationite. What titrated solution is to be used for the following titration of generated citric acid?
Correct answer	Sodium hydroxide
B	Iodine
C	Potassium iodate
D	Hydrochloric acid
E	Trilon B
№	krok 2011, 2010
Topic	General methods of medicines analysis by SPU
Task	According to the requirements of the State Pharmacopoeia of Ukraine, a pharmacy analyst determines iron admixture in a preparation by means of citric and thioglycolic acids. What staining indicates presence of this admixture?

Correct answer	Pink
B	Green
C	Yellow
D	Blue
E	Black
№	krok 2011, 2010
Topic	Medicines of inorganic structure
Task	Which antiseptic preparation has bactericidal effect due to the formation of atomic oxygen?
Correct answer	Potassium permanganate
B	Chloraminum
C	Furacilinum
D	Aethonium
E	Silver nitrate
№	krok 2011
Topic	General methods of medicines analysis by SPU
Task	Preliminary tests involve using various kinds of indicator paper. Blackening of the indicator paper treated with plumbum acetate indicates that the biological object contains:
Correct answer	Hydrogen sulphide
B	Hydrogen chloride
C	Ammonium hydroxide
D	Sulphuric acid
E	Sodium hydroxide
№	krok 2011
Topic	General methods of medicines analysis by SPU

Task	An analytical chemist makes a test for the presence of sodium thiosulphate. Select a reagent which allows to detect the thiosulphate ion:
Correct answer	Hydrochloric acid
B	Sodium bromide
C	Potassium iodide
D	Sodium hydroxide
E	Magnesium sulfate
№	krok 2011
Topic	General methods of medicines analysis by SPU
Task	An analytical chemist was identifying xeroform in reaction with sodium sulphide. As a result of reaction a black solid dropped out. What ion was detected?
Correct answer	Bismuth
B	Lead
C	Zinc
D	Copper
E	Silver
№	krok 2011
Topic	General methods of medicines analysis by SPU
Task	A chemist of an analytic laboratory has to prepare turbidity standards according to the requirements of Pharmacopoeia. What substances are to be used as the reference?
Correct answer	Hexamethylenetetramine and hydrazine sulphate
B	Calcium sulphate and glycerin
C	Sodium chloride and calcium nitrate
D	Potassium chloride and barium sulphate
E	Furacilinum and calcium chloride
№	krok 2011
Topic	Medicines of aliphatic, alicyclic and aromatic structure

Task	During the identification of a drug an analytical chemist of the State Inspectorate for Quality Control performs a lignin test. Specify this drug:
Correct answer	Streptotcid
B	Ascorbic acid
C	Cortisone acetate
D	Methionine
E	Analgin
№	krok 2011, 2010
Topic	Medicines of aliphatic, alicyclic and aromatic structure
Task	A pharmacist-analyst carries out quantitative analysis of procaine hydrochloride. Which of the following solutions is to be used?
Correct answer	Sodium nitrite
B	Sodium thiosulfate
C	Sodium edetate
D	Potassium bromate
E	Argentum nitricum
№	krok 2011, 2010
Topic	Medicines of inorganic structure
Task	A pharmacy analyst carries out purity test of the drug substance "Sodium thiosulfate". Violet colour, that comes from reaction with sodium nitroprusside, indicates the presence of the following admixture:
Correct answer	Specific sulfides admixture
B	Sulphates admixture
C	Sulfur admixture
D	Sodium chloride admixture
E	Iodides admixture
№	krok 2011

Topic	Medicines of aliphatic, alicyclic and aromatic structure
Task	An analytic laboratory received "Aetheranaestheticus" for analysis. Which reagent should be used for detection of acetone and aldehyde admixtures according to the State Pharmacopoeia of Ukraine?
Correct answer	Alkaline solution of potassium tetraiodomercurate
B	Ammonium solution of argentum nitrate
C	Aqueous solution of potassium iodide
D	Sodium hydrosulphite
E	Hydroxylamine solution
№	krok 2011
Topic	Medicines of aliphatic, alicyclic and aromatic structure
Task	Qualitative reaction for phenol is the reaction with bromine water. What compound is produced as a result of the interaction of phenol with bromine water and drops out as a white solid?
Correct answer	2,4,6-tribromophenol
B	2-bromophenol
C	3-bromophenol
D	4-bromophenol
E	2,4-dibromophenol
№	krok 2011,2010
Topic	Medicines from a group of vitamins, antibiotics and hormones, their semisynthetic and synthetic analogues
Task	The basic structure of steroid hormones is hydrocarbon skeleton cyclopentanoperhydrophenanthrene. What natural compound is used for testosterone propionate production?
Correct answer	Cholesterol
B	Indole

C	Naphthalene
D	Phenanthrene
E	Anthracene
№	krok 2011
Topic	Medicines of aliphatic, alicyclic and aromatic structure
Task	According to the requirements of the State Pharmacopoeia of Ukraine, a pharmacy analyst should determine procaine hydrochloride by nitritometric method. What indicator is to be used for this purpose?
Correct answer	Neutral red
B	Methyl red
C	Crystal violet
D	Xylenol orange
E	Acid chrome blue
№	krok 2011
Topic	Medicines of heterocyclic structure
Task	According to the requirements of the State Pharmacopoeia of Ukraine, a pharmacy analyst should determine fluorouracil by method of nonaqueous titration. What titrated solution is to be used?
Correct answer	Tetrabutyl ammonium hydroxide
B	Sodium nitrite
C	Potassium bromate
D	Ammonium thiocyanate
E	Sodium edetate
№	krok 2011
Topic	Medicines from a group of carbohydrates, glycosides, alkaloids, their semisynthetic and synthetic analogues

Task	An analytical chemist analyses the substance of ethylmorphine hydrochloride. The substance purity is tested by method of semimicroanalysis. What reagent is used to determine the water admixture?
Correct answer	Iodosulphurous
B	Biuretic
C	Methoxyphenyl acetic acid
D	Molibdeno-vanadium
E	Hypophosphite
№	krok 2011
Topic	Medicines of inorganic structure
Task	An analytical laboratory carries out an analysis of ferrumsulphateheptohydrate according to the requirements of the State Pharmacopoeia of Ukraine. The test portion of the substance should be titrated with the following solution:
Correct answer	Ammonium cerium sulfate
B	Argentum nitrate
C	Ammonium thiocyanate
D	Sodium edetate
E	Potassium bromate
№	krok 2011
Topic	Medicines from a group of carbohydrates, glycosides, alkaloids, their semisynthetic and synthetic analogues
Task	An analytical chemist determines the quantitative content of caffeine by method of acidometry in nonaqueous media in compliance with the State Pharmacopoeia of Ukraine. What solution is used as a titrant?
Correct answer	Perchloric acid
B	Sodium edetate
C	Potassium bromate

D	Sodium hydroxide
E	Sodium nitrite
№	krok 2011, 2010
Topic	Medicines of inorganic structure
Task	A pharmacy analyst identifies sodium hydrocarbonate. What indicator can confirm the presence of alkalescent medium reaction in the sodium hydrocarbonate solution?
Correct answer	Phenolphthalein
B	Starch
C	Tropeolin 00
D	Ferrouin
E	Naphtholbenzein
№	krok 2011
Topic	Medicines of aliphatic, alicyclic and aromatic structure
Task	Substance of calcium pangamate is to be studied in n analytical laboratory. Calcium cation forms a white precipitate with the following reagent:
Correct answer	Ammonium oxalate
B	Sodium chloride
C	Potassium permanganate
D	Potassium bromide
E	Sodium cobaltinitrite
№	krok 2011
Topic	Medicines of aliphatic, alicyclic and aromatic structure
Task	A chemist of an analytical laboratory studies procaine hydrochloride according to the requirements of the State Pharmacopoeia of Ukraine. What method is recommended by the State Pharmacopoeia of Ukraine for the quantitative analysis of this preparation?
Correct answer	Nitritometry
B	Bromatometry

C	Acidimetry
D	Alkalimetry
E	Chelatometry
№	krok 2012, 2009
Topic	Medicines of aliphatic, alicyclic and aromatic structure
Task	Pharmaceutical chemistry studies methods of drug synthesis. Interaction of anesthesin with beta-diethylaminoethanol in presence of sodium alcoholate with following acidation with hydrochloric acid results in origination of:
Correct answer	Procaine hydrochloride
B	Procainamide hydrochloride
C	Tetracaine hydrochloride
D	Xycain
E	Trimecaine hydrochloride
№	krok 2012
Topic	General methods of medicines analysis by SPU
Task	According to the State Pharmacopoeia of Ukraine, in order to test a substance for the highest level of magnesium impurities an analytical chemist must use the following solution:
Correct answer	Hydroxyquinoline
B	Resorcin
C	Pyridine
D	Formaldehyde
E	Benzaldehyde
№	krok 2012
Topic	Medicines of aliphatic, alicyclic and aromatic structure
Task	Anesthesin relates to substances with local anesthetic activity and is a derivative of the following acid:

Correct answer	Para-aminobenzoic
B	Para-aminosalicylic
C	Para-aminobenzolsulfonic
D	Para-chlorbenzoic
E	Para-aminophthalic
№	krok 2011, 2009
Topic	Medicines of heterocyclic structure
Task	Quantitative determination of nitrofurantoin (furacilin) can be done by method of spectrophotometry. A pharmacy analyst can calculate quantity by measuring:
Correct answer	Optical density
B	Refractive index
C	Rotation angle
D	pH of solution
E	Fusion temperature
№	krok 2011, 2010
Topic	Medicines of heterocyclic structure
Task	Which of the following reagents should be added to the isoniazid to achieve blue colour and precipitation that turns light-green and emits gases when heated?
Correct answer	Copper sulfate solution
B	Silver nitrate solution
C	Alkaline solution
D	Hydrochloric acid solution
E	Iron (III) chloride solution
№	krok 2010
Topic	General methods of medicines analysis by SPU

Task	A pharmacy analyst supervises the state of a refractometer. For its calibration he needs some distilled water. The distilled water must have the following value of the refractive index:
Correct answer	1,333
B	1,311
C	1,322
D	1,344
E	1,355
№	krok 2010
Topic	Medicines of aliphatic , alicyclic and aromatic structure
Task	In order to identify a polyatomic glycerin alcohol a pharmacy analyst carries out dehydration reaction with potassium hydrosulfate. The generated hereat product has a strong characteristic smell and gives blue colour to the filter paper moistened with 1% solution of sodium nitroprusside and with piperidine. What product is it?
Correct answer	Acrolein
B	Diethyl ethe
C	Acetic acid
D	Ethanol
E	Chloroform
№	krok 2010
Topic	Medicines of aliphatic , alicyclic and aromatic structure
Task	During the analysis of diethyl ether (Aether medicinales) you can determine presence of aldehydes as a specific admixture. Which of the following reragents can be used for determining presence of aldehyde admixture?
Correct answer	Potassium tetraiodomercurate alkaline
B	Phenolphtalein
C	Iron (III) chloride

D	Acetic acid
E	Potassium sulfate
№	krok 2010, 2009
Topic	Medicines of aliphatic , alicyclic and aromatic structure
Task	An analyst of the National drug quality control inspection identifies "Sulfametoxazol"by adding the solutions of hydrochloric acid, sodium nitrite and beta-naphthol to the preparation. Thereat intense red colour is observed. What functional group is identified by this reaction?
Correct answer	Primary aromatic amino
B	Secondary aromatic amino
C	Sulpho group
D	Carboxyl group
E	Aldehyde group
№	krok 2010
Topic	General methods of medicines analysis by SPU
Task	In order to detect an admixture of potassium in medical preparations a pharmacy analyst should carry out a reaction with:
Correct answer	Sodium tetraphenylborate
B	Sodium tetraborate
C	Boric acid
D	Sulfuric acid
E	Salicylic acid
№	krok 2010
Topic	Medicines of aliphatic, alicyclic and aromatic structure
Task	An analyst of the National drug quality control inspection carries out quantitative analysis of "Resorcin"substance by method of bromatometry (back titration). What indicator is used by doing so?

Correct answer	Starch
B	Ammonium iron (III) sulfate
C	Potassium chromate
D	Phenolphthalein
E	Sodium eozinat
№	krok 2010
Topic	Medicines from a group of vitamins, antibiotics and hormones, their semisynthetic and synthetic analogues
Task	A pharmacist-analyst is measuring the quantity of an adrenaline tartrate substance by method of acid-base titration in nonaqueous solvents. Which indicator is to be used in this case according to the requirements of the Ukrainian State Pharmacopoeia?
Correct answer	Crystal violet
B	Methyl orange
C	Phenolphthalein
D	Thymolphthalein
E	Eriochrome black
№	krok 2010
Topic	Medicines from a group of vitamins, antibiotics and hormones, their semisynthetic and synthetic analogues
Task	Which of the following drugs a pharmacist-analyst can quantify by ceriometry method?
Correct answer	Vicasolum
B	Acetylsalicylic acid
C	Sodium benzoate
D	Phenyl salicylate
E	Phenobarbital
№	krok 2010
Topic	General methods of medicines analysis by SPU

Task	A pharmacist-analyst is measuring the quantity of a drug by method of indirect bromatometry. Which of the following titrated solutions is to be used?
Correct answer	Sodium thiosulfate
B	Calcium bromate
C	Sodium edetate
D	Sodium nitrite
E	Argentum nitricum (silver nitrate)
№	krok 2010
Topic	Medicines from a group of vitamins, antibiotics and hormones, their semisynthetic and synthetic analogues
Task	An analytical laboratory received "Adrenalini tartras" substance for analysis. According to the requirements of the Ukrainian State Pharmacopoeia, quantitative analysis of this substance can be carried out by method of:
Correct answer	Acidimetry in non-aqueous medium
B	Acidimetry in aqueous medium
C	Iodometry
D	Nitritometry
E	Bromatometry
№	krok 2010
Topic	Medicines of inorganic structure
Task	According to the requirements of the Ukrainian State Pharmacopoeia, a pharmacy analyst is determining calcium gluconate quantity by method of complexometric titration. What indicator is to be used?
Correct answer	Calconcarboxylic acid
B	Methyl red
C	Crystal violet
D	Thymolphthalein

E	Tropeoline 00
№	krok 2010
Topic	General methods of medicines analysis by SPU
Task	Reaction with <i>KI</i> solution which is called "Golden Rain Reaction" helps to detect presence of the following toxic metal:
Correct answer	<i>P b</i>
B	<i>Ba</i>
C	<i>Cu</i>
D	<i>Ag</i>
E	<i>M n</i>
№	krok 2010
Topic	Medicines of aliphatic alicyclic and aromatic structure
Task	Salicylates are widely applied in medical practice as anti-inflammatory drugs. For quantitative analysis of salicylic acid the following method is applied:
Correct answer	Alkalimetry
B	Nitritometry
C	Argentometry
D	Permanganatometry
E	Chelatometry
№	krok 2010
Topic	Medicines of inorganic structure
Task	According to the requirements of the Ukrainian State Pharmacopoeia (Supplement 1), a pharmacy analyst has to carry out quantitative analysis of potassium iodide by means of the following method:
Correct answer	Iodatometry
B	Complexonometry
C	Acidimetry

D	Alkalimetry
E	Nitritometry
№	krok 2010
Topic	Medicines of aliphatic alicyclic and aromatic structure
Task	Which of the mentioned below drugs has the following chemical name: n-aminobenzoic acid diethylaminoethyl ester hydrochloride:
Correct answer	Novocaine
B	Dimedrol
C	Streptocid
D	Tetracaine
E	Streptomycin
№	krok 2010
Topic	Medicines of aliphatic alicyclic and aromatic structure
Task	An analytical laboratory is studying substance of calcium lactate. In presence of ammonium chloride calcium cation forms white crystalline precipitation with the following reagent:
Correct answer	Potassium ferrocyanide
B	Sodium chloride
C	Potassium permanganate
D	Sodium tetraborate
E	Sodium cobaltnitrite
№	krok 2010
Topic	Medicines from a group of vitamins, antibiotics and hormones, their semisynthetic and synthetic analogues
Task	Analytical laboratories often use 2,6-dichlorophenolindophenol solution, which is normally blue and can be decolorized by the reducing agents. What drug can be identified by means of 2,6-dichlorophenolindophenol solution?

Correct answer	Ascorbic acid
B	Salicylic acid
C	Nicotinic acid
D	Benzoic acid
E	Acetylsalicylic acid
№	krok 2013
Topic	Medicines from a group of vitamins, antibiotics and hormones, their semisynthetic and synthetic analogues
Task	Which drug including the beta-lactam cycle in its structure gives a positive reaction with a solution of hydroxylamine hydrochloride in the presence of sodium solution of hydroxylamine hydrochloride in the presence of sodium hydroxide followed by adding the solution of iron (III) chloride?
Correct answer	Phenoxymethylpenicillin
B	Streptocid
C	Dibazolium
D	Antipyrine
E	Papaverine hydrochloride
№	krok 2013
Topic	Medicines from a group of carbohydrates, glycosides, alkaloids, their semisynthetic and synthetic analogues
Task	During transportation, the markings on the packages of theobromine and theophylline were damaged. What solution allows to identify theobromine and theophylline?
Correct answer	Cobalt chloride
B	Sodium chloride
C	Copper nitrate
D	Potassium permanganate
E	Potassium dichromate

№	krok 2013
Topic	Medicines of aliphatic , alicyclic and aromatic structure
Task	Paracetamol substance has been sent for analysis. Reaction with the solution of iron (III) chloride gave the blue-purple colour. This indicates the presence of:
Correct answer	Phenolic hydroxyl
B	Aldehyde group
C	Keto group
D	Ester group
E	Alcoholic hydroxyl
№	krok 2013
Topic	Medicines of inorganic structure
Task	Chloride of lime is identified by calcium cations after boiling with acetic acid in order to eliminate active chlorine. What reagent is used?
Correct answer	Ammonium oxalate
B	Magnesium sulfate
C	Potassium chloride
D	Sodium nitrite
E	Ammonium molybdate
№	krok 2013
Topic	Medicines of inorganic structure
Task	The medicine "Bismuthi subnitras" can be identified after dissolving it in the acid with the following reagent:
Correct answer	Potassium iodide
B	Sodium chloride
C	Sodium sulfate
D	Potassium chlorate
E	Potassium nitrate

№	krok 2013
Topic	Medicines from a group of vitamins, antibiotics and hormones, their semisynthetic and synthetic analogues
Task	In order to identify deoxycorticosterone acetate a pharmaceutical analyst performed a steroid cycle reaction, which resulted in formation of cherryred colour and a green fluorescence. What reagent was added?
Correct answer	Concentrated sulfuric acid
B	Iodine solution
C	Iron (III) chloride solution
D	Chloroform
E	Potassium hydroxide solution
№	krok 2013
Topic	Medicines of aliphatic, alicyclic and aromatic structure
Task	An analytical laboratory received a sample of alpha-aminobutyric acid for analysis. What reagent should be used by the analyst in order to identify this substance?
Correct answer	Ninhydrin
B	Sodium nitrate
C	Benzene
D	Aniline
E	Calcium bromide
№	krok 2013
Topic	Medicines from a group of carbohydrates, glycosides, alkaloids, their semisynthetic and synthetic analogues
Task	White precipitate produced by the reaction of morphine hydrochloride with ammonia solution dissolves in sodium hydroxide solution due to the presence of the following group in the structure of morphine hydrochloride:
Correct answer	Phenolic hydroxyl

B	Carboxyl group
C	Aldehyde group
D	Alcoholic hydroxyl
E	Keto group
№	krok 2013
Topic	Medicines of aliphatic, alicyclic and aromatic structure
Task	According to SPhU, formaldehyde can be identified when a sample is reacted with chromotropic acid solution in the presence of concentrated sulfuric acid. What colour is formed by this reaction?
Correct answer	Violet
B	Yellow
C	Blue
D	Green
E	Brown
№	krok 2013
Topic	General methods of medicines analysis by SPU
Task	What solution is used for the detection of iron (II) ions under the SPhU requirements?
Correct answer	Potassium ferricyanide
B	Ammonia
C	Lanthanum nitrate
D	Sodium hydroxide
E	Silver nitrate
№	krok 2013
Topic	Medicines from a group of carbohydrates, glycosides, alkaloids, their semisynthetic and synthetic analogues
Task	An analytical laboratory has the task to confirm the presence of ethylenediamine in the aminophylline. Which of the following reagents allows to detect ethylenediamine?

Correct answer	Copper (II) sulfate
B	Sodium hydroxide
C	Concentrated sulfuric acid
D	Silver nitrate
E	Barium chloride
№	krok 2013
Topic	Medicines from a group of carbohydrates, glycosides, alkaloids, their semisynthetic and synthetic analogues
Task	Pharmaceutical analyst working at the laboratory of the State Inspectorate for Quality Control of Medicines identifies the drug substance "Glucose anhydrous" with copper tartrate solution (Fehling's reagent). What colour precipitate is produced?
Correct answer	Red
B	Blue
C	Black
D	Purple
E	White
№	krok 2013
Topic	Medicines from a group of vitamins, antibiotics and hormones, their semisynthetic and synthetic analogues
Task	A pharmaceutical analyst working at the laboratory of the State Inspectorate for Quality Control of Medicines identifies "Thiamine hydrobromide" with the solution of potassium ferricyanide in the alkaline medium. When doing this, he observes a light-blue fluorescence of the alcohol layer in UV light. What product is thus formed?
Correct answer	Thiochrome
B	Murexide
C	Thalleioquin
D	Ninhydrin

E	Quinoneimine
№	krok 2013
Topic	General methods of medicines analysis by SPU
Task	A pharmacist working at an analytical laboratory is engaged into sulfite ion identification of a drug in compliance with the requirements of SPhU. What reagent becomes colourless in this study?
Correct answer	Iodine solution
B	Iron (III) chloride solution
C	Ammonia solution
D	Potassium iodide solution
E	Potassium nitrate solution
№	krok 2013
Topic	Medicines of heterocyclic structure
Task	A laboratory for drug quality control checks the quality of the drug substance nitrofurantoin (furacilin). The chemical denomination of this drug is:
Correct answer	5-Nitro-2-furaldehyde semicarbazone
B	1-(5-Nitrofurfurilidenamino)imidazolidine-2,4-dione
C	N-(2-Furandil)-5-fluorouracil
D	7-Nitro-5-phenyl-1,3-dihydro-2H-1,4-benzodiazepin-2-one
E	1,2-Diphenyl-4-butylpyrazolidine-dione-3,5
№	krok 2013
Topic	Medicines of heterocyclic structure
Task	Some alkaline solution was added to the alcohol solution of fivazide, causing the solution to change colour from the light yellow to the orange-yellow. Subsequent addition of hydrochloric acid made the solution become again light yellow, and then orange-yellow. What properties of fivazide are proved by this reaction?
Correct answer	Amphoteric

B	Oxidative
C	Acid
D	Base
E	Reducing
№	krok 2013
Topic	Medicines from a group of carbohydrates, glycosides, alkaloids, their semisynthetic and synthetic analogues
Task	When atropine sulfate is tested for purity, the alkaloids and degradation products are detected by TLC. For this purpose the chromatographic plate is sprayed with a solution of:
Correct answer	Potassium iodobismuthate
B	Ammonia
C	Ninhydrin
D	Acetic-hydrochloric dini-trophenylhydrazine
E	Tetrabutylammonium hydroxide
№	krok 2013
Topic	Medicines of inorganic structure
Task	Specific impurity of thiosulfates in <i>Natrii iodidum</i> and <i>Kalii iodidum</i> is identified by adding starch and iodine solutions. The absence of impurities is proved by:
Correct answer	Blue colour
B	Yellow colour
C	Disappearance of the blue colour
D	White precipitate
E	Discolouration of the solution
№	krok 2013
Topic	General methods of medicines analysis by SPU

Task	Under the SPhU requirements mercury salts are indentified by means of interaction with sodium hydroxide solution. Specify the colour of the precipitate that is produced as a resut of this reaction:
Correct answer	Yellow
B	Red
C	Blue
D	Yellow-green
E	White
№	krok 2013, 2011
Topic	Medicines of aliphatic , alicyclic and aromatic structure
Task	A pharmaceutical analyst analyzes the substance of ascorbic acid in compliance with the requirements of the State Pharmacopoeia of Ukraine. To identify the oxalic acid impurities he uses the solution of:
Correct answer	Calcium chloride
B	Sodium chloride
C	Sodium hydrocarbonate
D	Sodium sulfate
E	Sodium thiosulfate
№	krok 2013
Topic	Medicines of heterocyclic structure
Task	Enrolled in private pharmacies to implement a drug whose active ingredient is the chemical name of 2-chloro-10-(3'-dimethylaminopropyl)-phenothiazine hydrochloride. Specify this drug:
Correct answer	Chlorpromazine hydrochloride
B	Promethazine hydrochloride
C	Trifluoperazine hydrochloride
D	Clonidine hydrochloride

E	Diphenhydramine hydrochloride
№	krok 2009
Topic	Medicines of inorganic structure
Task	An analyst of a pharmaceutical storehouse received the substance of hydrogen peroxide for analysis. Quantitative determination of this drug should be performed by permanganatometric method. According to the analytical normative document, titration should be carried out till the solution turns:
Correct answer	Pink
B	Green
C	YellowDark blue
D	Colourless
E	
№	krok 2009
Topic	Medicines of aliphatic , alicyclic and aromatic structure
Task	An analytical laboratory received substance of citric acid for the analysis. According to the requirements of the Ukrainian State Pharmacopoeia, citric acid can be determined by method of:
Correct answer	Alkalimetry
B	Iodometry
C	Acidimetry
D	Bromatometry
E	Iodochlorometry
№	krok 2009
Topic	General methods of medicines analysis by SPU
Task	According to the requirements of the Ukrainian State Pharmacopoeia, the amount of calcium gluconate can be determined by the chelatometric method. What solution should be used as a titrant?

Correct answer	Sodium edetate
B	Potassium permanganate
C	Iodine monochloride
D	Argentum nitrate
E	Hydrochloric acid
№	krok 2009
Topic	Medicines from a group of carbohydrates, glycosides, alkaloids, their semisynthetic and synthetic analogues
Task	Codeine can be derived for medical purposes out of a plant alkaloid by means of semisynthetic method. Name this alkaloid:
Correct answer	Morphine
B	Papaverine
C	Berberine
D	Protopine
E	Chelidonine
№	krok 2009
Topic	Medicines of aliphatic, alicyclic and aromatic structure
Task	Quantitative analysis of drugs containing primary aromatic amine can be performed by means of nitritometric method. Which of the following preparations can be determined by the nitritometric method without preliminary acid hydrolysis?
Correct answer	Sulfadimine
B	Phthalazol
C	Phthazin
D	Paracetamol
E	Soluble streptocid
№	krok 2009
Topic	Medicines of heterocyclic structure

Task	An expert of an analytical laboratory is determining Nitrofurantoin. What quantitative titrimetric method can be applied?
Correct answer	Iodometry
B	Permanganatometry
C	Alkalimetry
D	Argentometry
E	Nitritometry
№	krok 2009
Topic	Medicines of aliphatic, alicyclic and aromatic structure
Task	A pharmacy analyst is determining one of the following drugs by the nitritometric method. What drug is it?
Correct answer	Norsulfazole
B	Ftivazide
C	Analgin
D	Ammonium chloride
E	Atropine sulfate
№	krok 2009
Topic	Medicines from a group of vitamins, antibiotics and hormones, their semisynthetic and synthetic analogues
Task	A pharmacy analyst is determining adrenaline tartrate by method of acid-base titration in the anhydrous solvents. What indicator is to be used according to the requirements of the Ukrainian State Pharmacopoeia?
Correct answer	Crystal violet
B	Methyl orange
C	Phenolphthalein
D	Thymolphthalein
E	Eriochrome black

№	krok 2009
Topic	General methods of medicines analysis by SPU
Task	A pharmacy analyst is measuring a drug by method of indirect bromatometry. Which of the following titrated solutions is to be used?
Correct answer	Sodium thiosulfate
B	Potassium bromate
C	Sodium edetate
D	Sodium nitrite
E	Argentum nitrate
№	krok 2009
Topic	Medicines from a group of vitamins, antibiotics and hormones, their semisynthetic and synthetic analogues
Task	An expert of an analytical laboratory is determining Ca^{2+} in the substance of calcium pantothenate. Specify the method of analysis:
Correct answer	Chelatometry
B	Nitritometry
C	Argentometry
D	Permanganatometry
E	Iodometry
№	krok 2009
Topic	Medicines of aliphatic , alicyclic and aromatic structure
Task	According to the requirements of the Ukrainian State Pharmacopoeia, a pharmacy analyst is determining procaine hydrochloride by nitritometric method. What indicator should be used for this purpose?
Correct answer	Neutral red
B	Methyl red

C	Crystal violet
D	Xylenol orange
E	Acid chrome blue
№	krok 2009
Topic	Medicines of heterocyclic structure
Task	According to the requirements of the Ukrainian State Pharmacopoeia, a pharmacy analyst is determining fluorouracil by method of nonaqueous titration. What titrated solution is to be used?
Correct answer	Tetrabutyl ammonium hydroxide
B	Sodium nitrite
C	Potassium bromate
D	Ammonium thiocyanate
E	Sodium edetate
№	krok 2009
Topic	Medicines of aliphatic alicyclic and aromatic structure
Task	According to the requirements of the Ukrainian State Pharmacopoeia, a pharmacy analyst is determining calcium gluconate by method of complexometric titration. What indicator is to be used?
Correct answer	Calconcarbon acid
B	Methyl red
C	Crystal violet
D	Thymolphthalein
E	Tropeolin 00
№	krok 2009
Topic	Medicines of inorganic structure
Task	According to the requirements of the Ukrainian State Pharmacopoeia, a certain drug is being measured by method of chelatometric titration. What drug is it?

Correct answer	Calcium chloride
B	Potassium citrate
C	Potassium chloride
D	Sodium benzoate
E	Sodium thiosulfate
№	krok 2009
Topic	Medicines of inorganic structure
Task	An analytical laboratory carries out an analysis of ferrum sulphate heptohydrate according to the requirements of the Ukrainian State Pharmacopoeia. The test portion of the substance should be titrated with the following solution:
Correct answer	Ammonium cerium sulfate
B	Argentum nitrate
C	Ammonium thiocyanate
D	Sodium edetate
E	Potassium bromate
№	krok 2009
Topic	Medicines of aliphatic , alicyclic and aromatic structure
Task	An analyst is measuring sodium benzoate in the anhydrous medium by the acidimetric method according to the requirements of the Ukrainian State Pharmacopoeia. What reagent had to be used as a solvent?
Correct answer	Anhydrous acetic acid
B	Pyridine
C	Water
D	Dimethyl formamide
E	Methanol
№	krok 2009
Topic	Medicines of inorganic structure

Task	A pharmacy analyst is measuring mercury dichloride by method of indirect chelatometry. Excess of titrated solution of sodium edetate can be titrated by means of the following titrated solution:
Correct answer	Zinc sulfate
B	Sodium hydroxide
C	Sodium thiosulfate
D	Potassium bromate
E	Sodium methylate
№	krok 2009
Topic	Medicines of aliphatic, alicyclic and aromatic structure
Task	Calcium lactate can be quantitatively determined by chelatometric method. According to the Ukrainian State Pharmacopoeia, the following substance should be used as indicator:
Correct answer	Calconcarbon acid
B	Diphenylcarbazon
C	Naphthol benzein
D	Phenolphthalein
E	Tropeolin 00
№	krok 2009
Topic	Medicines of aliphatic, alicyclic and aromatic structure
Task	A pharmacy analyst of an analytical laboratory is studying procaine hydrochloride according to the requirements of the Ukrainian State Pharmacopoeia. What method is recommended by the Ukrainian State Pharmacopoeia for the quantitative analysis of this preparation?
Correct answer	Nitritometry
B	Bromatometry
C	Acidimetry

D	Alkalimetry
E	Chelatometry
№	krok 2009
Topic	Medicines from a group of carbohydrates, glycosides, alkaloids, their semisynthetic and synthetic analogues
Task	Theobromine and theophylline can be determined by alkalimetric method according to the substituent. What acid is to be titrated with sodium hydroxide?
Correct answer	Nitric
B	Hydrochloric
C	Sulfuric
D	Acetic
E	Phosphoric
№	krok 2009
Topic	Medicines of heterocyclic structure
Task	Analgin substance was sent for analysis. What method allows to evaluate quantitative content of analgin?
Correct answer	Iodometry
B	Acidimetry
C	Alkalimetry
D	Chelatometry
E	Permanganatometry
№	krok 2009
Topic	Medicines from a group of carbohydrates, glycosides, alkaloids, their semisynthetic and synthetic analogues

Task	A pharmacy analyst of the laboratory at the National drug quality control inspection is conducting quantitative determination of caffeine by method of acid-base titration in the anhydrous solvents according to the requirements of National Pharmacopeia of Ukraine. What titrated solution is to be used?
Correct answer	Perchloric acid
B	Sodium methylate
C	Sodium hydroxide
D	Sodium edetate
E	Potassium bromate
№	krok 2009
Topic	Medicines of aliphatic, alicyclic and aromatic structure
Task	After a sulfamide preparation was heated with salicylic acid in presence of concentrated sulfuric acid, it turned crimson. What drug is analyzed?
Correct answer	Soluble streptocid
B	Streptocid
C	Sulfaguine
D	Ethazol
E	Phtalazol
№	krok 2011, 2010
Topic	Medicines of aliphatic, alicyclic and aromatic structure
Task	A pharmacy has sulfonamide biseptol on sale. What chemical compounds are the main components of this drug?
Correct answer	Sulfamethoxazole, trimethoprim
B	Sulfazin, salazodimethoxinum
C	Sulgin, norsulfazol
D	Phthalazolium, sulfadimezin
E	Urosulfan, sulfapiridazin

№	
Topic	heterocyclic vitamins
Task	An analytical chemist conducts a thiochrome formation reaction to identify thiamine bromide. What reagent should be used in this case?
Correct answer	Potassium ferrocyanide
B	Iron(II) sulfate
C	Potassium bromide
D	Calcium chloride
E	Sodium hydroxide
№	STEP-2020-21
Topic	derivatives of terpenoids
Task	Menthol medicinal substance can be chemically classified as a:
Correct answer	Monocyclic terpene
B	Glycoside
C	Bicyclic terpene
D	Polypeptide
E	Acyclic terpene
№	STEP-2020-21
Topic	amino acid derivatives of the aliphatic series
Task	What reagent can confirm that alanine is an α -amino acid?
Correct answer	Ninhydrin solution
B	Barium hydroxide solution
C	Sulfuric acid solution
D	Saturated sodium bicarbonate solution
E	Sulfosalicylic acid solution

№	STEP-2020-21
Topic	derivatives of aldehydes of the aliphatic series
Task	A formaldehyde solution was received for analysis. What reagent should be used to identify this substance?
Correct answer	Chromotropic acid
B	Acetic acid
C	Benzoic acid
D	Tartaric acid
E	Hydrochloric acid
№	STEP-2020-21
Topic	medicines iodine
Task	To improve iodine solubility in the purified water, iodine must be:
Correct answer	Dissolved in a saturated solution of potassium iodide
B	Comminuted with alcohol
C	Dissolved in the boiling water
D	Reduced to fine powder
E	Dispersed with glycerine
№	STEP-2020-21
Topic	heterocyclic vitamins
Task	According to the State Pharmacopoeia of Ukraine monograph, alkalimetry should be used for quantitative determination of nicotinic acid. What is used as an indicator in this case?
Correct answer	Phenolphthalein
B	Calconcarbonic acid

C	Methylene blue
D	Sodium eosinate
E	Potassium chromate
№	STEP-2020-21
Topic	heterocyclic vitamins
Task	A folic acid molecule has a heterocyclic system, consisting of two condensed heterocycles - pyrimidine and pyrazine. Name this system:
Correct answer	Pteridine
B	Isoalloxazine
C	Phenothiazine
D	Corrin
E	Purine
№	STEP-2020-21
Topic	biologically active compounds of natural origin and their synthetic analogues
Task	During a practical session in pharmaceutical chemistry, a pharmaceutical student performs quantitative determination of caffeine substance. What method according to the State Pharmacopoeia of Ukraine should be used for this purpose?
Correct answer	Acid-base titration in a nonaqueous medium
B	Permanganometry
C	Bromometry
D	Cerimetry
E	Complexometric titration
№	STEP-2020-21
Topic	iron medicines

Task	What should be used by an analytical chemist in the pharmacopoeial analysis of medicinal substances that contain iron(III)?
Correct answer	Potassium thiocyanate solution
B	Potassium permanganate solution
C	Ammonium chloride solution
D	Ammonia solution
E	Sodium nitrite solution
№	STEP-2020-21
Topic	derivatives of condensed heterocycles
Task	What medicinal substance has benzimidazole in its structure?
Correct answer	Dibazol (Bendazol)
B	Metamizole sodium salt (Analgin)
C	Nitrofurazone (Furacilin)
D	Mercaptopurine (Thiamazole)
E	Diphenhydramine hydrochloride (Dimedrol)
№	STEP-2020-21
Topic	biologically active compounds of natural origin and their synthetic analogues
Task	A dispensing chemist uses iodometry (back titration) for quantitative determination of caffeine medicinal substance. What indicator is used in this case?
Correct answer	Starch
B	Eriochrome black
C	Litmus paper
D	Phenolphthalein
E	Phenol red
№	STEP-2020-21

Topic	medicines containing sulfur
Task	What medicinal substance during its interaction with a silver nitrate solution forms a white precipitate that quickly colors yellowish and then turns black?
Correct answer	Sodium thiosulfate
B	Sodium chloride
C	Sodium iodide
D	Hydrogen peroxide
E	Sodium bromide
№	STEP-2020-21
Topic	alkali metal halides
Task	If potassium salts are put into the colorless flame of a gas burner, the flame colors:
Correct answer	Violet
B	Green
C	Brick-red
D	Red
E	Yellow
№	STEP-2020-21
Topic	aromatic compounds
Task	A dispensing chemist-analyst identifies phenol, using a phenolic hydroxyl reaction. What reagent is necessary for this reaction?
Correct answer	Iron(III) chloride
B	Sulfuric acid
C	Sodium sulfate
D	Calcium chloride

E	Potassium chloride
№	STEP-2020-21
Topic	definition of functional groups
Task	When examining a substance with an ester group, you can conduct a reaction that produces:
Correct answer	Iron(III) hydroxamate
B	Indophenol
C	Diazonium salt
D	Azo dye
E	Berlin blue
№	STEP-2020-21
Topic	biologically active compounds of natural origin and their synthetic analogues
Task	The chemical structure of Strophanthus cardiac glycosides can be characterized by the presence of the following in position 10 of the steroid ring:
Correct answer	Aldehyde group
B	Methoxy group
C	Alcoholic hydroxyl
D	Ethoxy group
E	Phenolic hydroxyl
№	STEP-2020-21
Topic	steroid hormones and their synthetic analogues
Task	Select a non-steroid estrogen from the list below:
Correct answer	Synoestrol (Hexestrol)
B	Adrenalin

C	Prednisolone
D	Retabolil (Nandrolone)
E	Progesterone
№	STEP-2020-21
Topic	derivatives of aromatic amino acids
Task	An analytical chemist uses nitritometry for quantitative determination of procainamide hydrochloride. What indicator is used in this case to determine the titration endpoint?
Correct answer	Tropeolin 00
B	Methyl red
C	Phenolphthalein
D	Methyl orange
E	Xylenol orange
№	STEP-2020-21
Topic	biologically active compounds of natural origin and their synthetic analogues
Task	An alkaloid drug has the chemical name of 1,3-Trimethyl-3,7-dihydro-1H-purine-2,6-dione. Name this compound:
Correct answer	Caffeine
B	Chloramphenicol
C	Phenazone
D	Ampicillin
E	Norfloxacin
№	STEP-2020-21
Topic	heterocyclic vitamins

Task	What reagent should be used by a dispensing chemist-analyst in a reaction for pyridine ring identification?
Correct answer	Cyanogen bromide reagent
B	Silver nitrate solution
C	Chromotropic acid disodium salt
D	Cobalt nitrate solution
E	Hydrochloric acid
№	STEP-2020-21
Topic	medicinal substances containing calcium
Task	The analytical laboratory has received calcium chloride. What volumetric solution should be used for quantitative determination of this medicinal substance?
Correct answer	Sodium edetate
B	Sodium hydroxide
C	Potassium bromate
D	Hydrochloric acid
E	Potassium permanganate
№	STEP-2020-21
Topic	heterocyclic compounds
Task	What medicinal substance has an imidazole fragment in its structure?
Correct answer	Pilocarpine hydrochloride
B	Nitrofurazone
C	Thiamine bromide
D	Nicotinic acid
E	Phenazone
№	STEP-2020-21

Topic	aromatic compounds
Task	According to the State Pharmacopoeia of Ukraine, cerimetry should be used to determine the quantitative content of paracetamol. What solution is used as a titrant in this case?
Correct answer	Cerium sulfate
B	Iodine monochloride
C	Silver nitrate
D	Potassium permanganate
E	Hydrochloric acid
№	STEP-2020-21
Topic	drugs from the group of hormones and their semi-synthetic and synthetic analogues
Task	An analytical chemist has conducted a qualitative reaction to confirm the presence of a steroid ring in the prednisolone molecule. For this purpose the following reagent was used:
Correct answer	Concentrated sulfuric acid
B	Hydroxylamine hydrochloride
C	Acetic anhydride
D	Copper tartrate reagent
E	Phenylhydrazine sulfate
№	STEP-2020-21
Topic	antibiotics and their semi-synthetic analogues
Task	Erythromycin belongs to the following type of antibiotics, based on its chemical structure:
Correct answer	Macrolides

B	Aromatic antibiotics
C	?-lactams
D	Polyene antibiotics
E	Polypeptides
№	STEP-2020-21
Topic	medicines containing arsenic and bismuth
Task	What should be used by a dispensing chemist-analyst for identification of bismuth-containing medicinal substances?
Correct answer	Thiourea solution
B	Potassium permanganate solution
C	Cobalt nitrate solution
D	Beta-naphthol solution
E	Iron(III) sulfate solution
№	STEP-2020-21
Topic	aromatic compounds
Task	The quality control analytical laboratory analyzes a medicine with sodium benzoate. What reagent will form a pink-yellow precipitate with the medicine being analyzed?
Correct answer	Iron(III) chloride solution
B	Sodium nitrate solution
C	Sodium bicarbonate solution
D	Potassium permanganate solution
E	Magnesium sulfate solution