1. 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:

a. 1,3330
b. 1,3220
c. 1,3550
d. 1,3440
e. 1,3110

2. 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?

a. Acetic acid
b. Diethyl ethe
c. Acrolein
d. Ethanol
e. Chloroform

3. A pharmacy analyst analizes 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:

a. Chemical reducing agent
b. Nitrates
c. Heavy metals
d. Sulfates
e. Carbon dioxide

4. An analytical laboratory carries out quantitative analysis of sodium citrate by method of ion-exchanging chromatography on a cationite. What titrated solution is to be used for the following titration of generated citric acid?

a. Trilon B
b. Sodium hydroxide
c. Potassium iodate
d. Iodine
e. Hydrochloric acid

5. A pharmacy analyst can verify presence of iron cation (II) in a drug formulation by means of the following solution:

a. Sodium phosphate
b. Ammonium sulfide
c. Magnesium sulfate
d. Sodium chloride
e. Potassium bromide

6. When the glucose is heated with the copper-tartrate reagent (Fehlings reagent) the brick-red precipitate settles down. It indicates presence of the following group:

a. Etherific
b. Amide
c. Ketonic
d. Carboxyl
e. Aldehyde

7. 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:

a. Colourless

b. Pink
c. Yellow
d. Green
e. Dark blue

8. According to the requirements of the Ukrainian State Pharmacopoeia, a pharmacy analyst is measuring iron admixture in a preparation by means of citric and thioglycolic acids. What staining indicates presence of this admixture?
a. Black
b. Pink
c. Yellow
d. Green
e. Blue

9. 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:
a. Bromatometry
b. Iodochlorometry
c. Iodometry
d. Acidimetry
e. Alkalimetry

10. 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?
a. Potassium permanganate
b. Argentum nitrate
c. Hydrochloric acid
d. Sodium edetate
e. Iodine monochloride

11. Codeine can be derived for medical purposes out of a plant alkaloid by means of semisynthetic method. Name this alkaloid:
a. Protopine
b. Chelidonine
c. Papaverine
d. Berberine
e. Morphine

12. 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?
a. Potassium tetraiodomercurate alkaline
b. Iron (III) cloride
c. Potassium sulfate
d. Acetic acid
e. Phenolphtalein

13. 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?
a. Soluble streptocid
b. Sulfadimine
c. Phthazin
d. Phthalazol
e. Paracetamol

14. 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?
a. Sulpho group
b. Secondary aromatic amino
c. Primary aromatic amino
d. Carboxyl group
e. Aldehyde group

15. In order to detect an admixture of potassium in medical preparations a pharmacy analyst should carry out a reaction with:
a. Sodium tetraphenylborate
b. Boric acid
c. Salicylic acid
d. Sulfuric acid
e. Sodium tetraborate

16. 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?
a. Phenolphtalein
b. Sodium eozinat
c. Ammonium iron (III) sulfate
d. Potassium chromate
e. Starch

17. An expert of an analytical laboratory is determining Nitrofural. What quantitative titrimetric method can be applied?
a. Nitritometry
b. Iodometry
c. Alkalimetry
d. Permanganatometry
e. Argentometry

18. A pharmacy analyst is determining one of the following drugs by the nintritometric method. What drug is it?
a. Ftivazide
b. Ammonium chloride
c. Atropine sulfate
d. Norsulfazole
e. Analgin

19. Specify the reaction to the ester-type drugs that is tolerated by the Ukrainian State Pharmacopoeia:
a. Formation of tayleohin
b. Formation of iron hydroxamates
c. Formation of indophenol
d. Formation of azo dye
e. Formation of 3-bromphenol

20. 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?
a. Crystal violet
b. Phenolphtalein
c. Eriochrome black
d. Thymolphthalein
e. Methyl orange

21. Which of the following drugs a pharmacist-analys can quantify by ceriometry method?
a. Acetylsalicylic acid

b. Phenyl salycylate
c. Phenobarbital
d. Vicasolum
e. Sodium benzoate

22. 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?
a. Sodium edetate
b. Calcium bromate
c. Sodium thiosulfate
d. Sodium nitrite
e. Argentum nitricum (silver nitrate)

23. An expert of an analytical laboratory is determining Ca2+ in the substance of calcium pantothenate. Specify the method of analysis:
a. Iodometry
b. Chelatometry
c. Argentometry
d. Nitritometry
e. Permanganatometry

24. A pharmacist-analyst carries out quantitative analysis of procaine hydrochloride. Which of the following solutions is to be used?
a. Sodium edetate
b. Sodium thiosulfate
c. Sodium nitrite
d. Potassium bromate
e. Argentum nitricum

25. 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:
a. Sulphates admixture
b. Sodium chloride admixture
c. Iodides admixture
d. Specific sulfides admixture
e. Sulfur admixture

26. 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:
a. Nitritometry
b. Bromatometry
c. Acidimetry in aqueous medium
d. Iodometry
e. Acidimetry in non-aqueous medium

27. The basic structure of steroid hormones is hydrocarbon skeleton - cyclopentane perhydrophenanthrene. What natural compound is used for testosterone propionate production?
a. Cholesterol
b. Naphthalene
c. Anthracene
d. Phenanthrene
e. Indole

28. 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?

a. Acid chrome blue
b. Neutral red
c. Crystal violet
d. Methyl red
e. Xylenol orange

29. 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?
a. Sodium nitrite
b. Ammonium thiocyanate
c. Sodium edetate
d. Tetrabutyl ammonium hydroxide
e. Potassium bromate

30. 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?
a. Tropeoline 00
b. Calconcarboxylic acid
c. Crystal violet
d. Methyl red
e. Thymolphthalein

31. According to the requirements of the Ukrainian State Pharmacopoeia, a certain drug is being measured by method of chelatometric titration. What drug is it?
a. Sodium benzoate
b. Sodium thiosulfate
c. Potassium citrate
d. Potassium chloride
e. Calcium chloride

32. 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:
a. Sodium edetate
b. Potassium bromate
c. Argentum nitrate
d. Ammonium thiocyanate
e. Ammonium cerium sulfate

33. A pharmacy analyst identifies sodium hydrocarbonate. What indicator can confirm the presence of alkalescent medium reaction in the sodium hydrocarbonate solution?
a. Starch
b. Ferroin
c. Naphtholbenzein
d. Phenolphtalein
e. Tropeolin 00

34. 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?
a. Water
b. Pyridine
c. Anhydrous acetic acid
d. Dimethyl formamide
e. Methanol

35. 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:
a. Sodium thiosulfate
b. Sodium hydroxide
c. Zinc sulfate
d. Potassium bromate
e. Sodium methylate

36. Calcium lactate can be quantitatively determined by chelatometric method. According to the Ukrainian State Pharmacopoeia, the following substance should be used as indicator:
a. Tropeolin 00
b. Calconcarbon acid
c. Naphthol benzein
d. Diphenylcarbazone
e. Phenolphthalein

37. 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?
a. Acidimetry
b. Bromatometry
c. Nitritometry
d. Alkalimetry
e. Chelatometry

38. As main reagent in test for phosphates admixtures the Ukrainian State Pharmacopoeia recommends to use:
a. Acetylacetone
b. Hypophosphite
c. Cupric tartrate
d. Thioacetamide
e. Sulfomolybdenum

39. Salicylates are widely applied in medical practice as anti-inflammatory drugs. For quantitative analysis of salicylic acid the following method is applied:
a. Argentometry
b. Nitritometry
c. Alkalimetry
d. Permanganatometry
e. Chelatometry

40. Theobromine and theophylline can be determined by alkalimetric method according to the substituent. What acid is to be titrated with sodium hydroxide?
a. Acetic
b. Phosphoric
c. Chydrochloric
d. Sulfuric
e. Nitric

41. 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:
a. Iodatometry
b. Acidimetry
c. Nitritometry
d. Alkalimetry
e. Complexonometry

42. A pharmacy has sulfonamide biseptol on sale. What chemical compounds are the main components of this drug?

a. Urosulfan, sulfapiridazin
b. Sulfamethoxazole, trimethoprim
c. Sulgin, norsulfazol
d. Sulfazin, salazodimethoxinum
e. Phthalazolum, sulfadimezin

43. 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 brownish-red. As a result of this reaction the following aldehyde derivative is produced:
a. Glutakon
b. Glutamic
c. Hexanic
d. Glyoxylic
e. Gluconic

44. 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?
a. Setting of white precipitate
b. The solution will turn purple
c. Emission of gas bubbles
d. The solution will turn green
e. Setting of black precipitate

45. Which of the mentioned below drugs has the following chemical name: n-aminobenzoic acid diethylaminoethyl ester hydrochloride:
a. Dimedrol
b. Tetracaine
c. Streptomycin
d. Novocaine
e. Streptocid

46. Quantitative determination of nitrofural (furacilin) can be done by method of spectrophotometry. A pharmacy analyst can calculate quantity by measuring:
a. Rotation angle
b. Refractive index
c. Optical density
d. pH of solution
e. Fusion temperature

47. Analgin substance was sent for analysis. What method allows to evaluate quantitative content of analgin?
a. Permanganatometry
b. Iodometry
c. Alkalimetry
d. Acidimetry
e. Chelatometry

48. A pharmacy analyst is studying substance of calcium lactate. In presence of ammonium chloride calcium cation forms white crystalline precipitation with the following reagent:
a. Sodium cobaltnitrite
b. Potassium ferrocyanide
c. Potassium permanganate
d. Sodium chloride
e. Sodium tetraborate

49. Analytical laboratories oten use 2,6-dichlorophenolindophenol solution, which is normally blue and

can be decolourized by the reducing agents. What drug can be identified by means of 2,6-dichlorophenolindophenol solution?

a. Ascorbic acid
b. Nicotinic acid
c. Acetylsalicylic acid
d. Benzoic acid
e. Salicylic acid

50. 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?

a. Potassium bromate
b. Perchloric acid
c. Sodium hydroxide
d. Sodium methylate
e. Sodium edetate

51. 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:

a. Procaine hydrochloride
b. Tetracaine hydrochloride
c. Trimecaine hydrochloride
d. Xycain
e. Procainamide hydrochloride

52. After a sulfamide preparation was heated with salicylic acid in presence of concentrated sulfuric acid, it turned crimson. What drug is analyzed?

a. Streptocid
b. Ethazol
c. Phtalazol
d. Soluble streptocid
e. Sulfaguine

53. 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?

a. Alkaline solution
b. Silver nitrate solution
c. Copper sulfate solution
d. Hydrochloric acid solution
e. Iron (III) chloride solution

54. 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:

a. 1,3440
b. 1,3550
c. 1,3110
d. 1,3220
e. 1,3330

55. 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?

a. Chloroform
b. Acrolein
c. Acetic acid

d. Diethyl ethe
e. Ethanol

56. A pharmacy analyst analizes 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:
a. Sulfates
b. Heavy metals
c. Carbon dioxide
d. Nitrates
e. Chemical reducing agent

57. An analytical laboratory carries out quantitative analysis of sodium citrate by method of ion-exchanging chromatography on a cationite. What titrated solution is to be used for the following titration of generated citric acid?
a. Potassium iodate
b. Iodine
c. Sodium hydroxide
d. Hydrochloric acid
e. Trilon B

58. A pharmacy analyst can verify presence of iron cation (II) in a drug formulation by means of the following solution:
a. Magnesium sulfate
b. Sodium chloride
c. Ammonium sulfide
d. Potassium bromide
e. Sodium phosphate

59. When the glucose is heated with the copper-tartrate reagent (Fehlings reagent) the brick-red precipitate settles down. It indicates presence of the following group:
a. Ketonic
b. Etherific
c. Amide
d. Aldehyde
e. Carboxyl

60. 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?
a. Black
b. Pink
c. Yellow
d. Green
e. Blue

61. 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:
a. Iodometry
b. Bromatometry
c. Iodochlorometry
d. Alkalimetry
e. Acidimetry

62. 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?
a. Argentum nitrate

b. Hydrochloric acid
c. Potassium permanganate
d. Iodine monochloride
e. Sodium edetate

63. 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?
a. Potassium sulfate
b. Potassium tetraiodomercurate alkaline
c. Iron (III) cloride
d. Phenolphtalein
e. Acetic acid

64. An analytical chemist makes a test for the presence of sodium thiosulphate. Select a reagent which allows to detect the thiosulphate ion:
a. Hydrochloric acid
b. Potassium iodide
c. Magnesium sulfate
d. Sodium hydroxide
e. Sodium bromide

65. An analytical chemist determines the admixture of sulphates in the boric acid. What is the main reagent that he has to add:
a. Potassium ferrocyanide
b. Sodium sulphide
c. Barium chloride
d. Silver nitrate
e. Ammonium oxalate

66. 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?
a. Carboxyl group
b. Aldehyde group
c. Secondary aromatic amino
d. Sulpho group
e. Primary aromatic amino

67. In order to detect an admixture of potassium in medical preparations a pharmacy analyst should carry out a reaction with:
a. Sodium tetraborate
b. Sulfuric acid
c. Salicylic acid
d. Sodium tetraphenylborate
e. Boric acid

68. 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?
a. Ammonium iron (III) sulfate
b. Phenolphtalein
c. Sodium eozinat
d. Starch
e. Potassium chromate

69. An expert of an analytical laboratory is determining Nitrofural. What quantitative titrimetric method can be applied?
a. Argentometry

b. Nitritometry
c. Permanganatometry
d. Alkalimetry
e. Iodometry

70. Quantitative determination of silver nitrate is done by method of thiocyanatometry. What indicator is used in this case?
a. Sodium eosinate
b. Iron (III) ammonium sulphate
c. Potassium chromate
d. Phenolphtalein
e. Methylene blue

71. 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?
a. Lead
b. Copper
c. Silver
d. Bismuth
e. Zinc

72. A pharmacy analyst is determining one of the following drugs by the nintritometric method. What drug is it?
a. Ammonium chloride
b. Atropine sulfate
c. Ftivazide
d. Analgin
e. Norsulfazole

73. 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?
a. Hexamethylenetetramine and hydrazine sulphate
b. Sodium chloride and calcium nitrate
c. Furacilinum and calcium chloride
d. Potassium chloride and barium sulphate
e. Calcium sulphate and glycerin

74. 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?
a. Thymolphthalein
b. Eriochrome black
c. Methyl orange
d. Phenolphtalein
e. Crystal violet

75. Which of the following drugs a pharmacist-analys can quantify by ceriometry method?
a. Sodium benzoate
b. Acetylsalicylic acid
c. Vicasolum
d. Phenyl salycylate
e. Phenobarbital

76. 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?
a. Argentum nitricum (silver nitrate)
b. Sodium thiosulfate
c. Sodium edetate

d. Calcium bromate
e. Sodium nitrite

77. During the identification of a drug an analytical chemist of the State Inspectorate for Quality Control performs a lignin test. Specify this drug:
a. Cortisone acetate
b. Ascorbic acid
c. Streptotcid
d. Methionine
e. Analgin

78. An expert of an analytical laboratory is determining Ca2+ in the substance of calcium pantothenate. Specify the method of analysis:
a. Permanganatometry
b. Iodometry
c. Nitritometry
d. Argentometry
e. Chelatometry

79. 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:
a. Iodides admixture
b. Specific sulfides admixture
c. Sulfur admixture
d. Sulphates admixture
e. Sodium chloride admixture

80. 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:
a. Iodometry
b. Acidimetry in aqueous medium
c. Acidimetry in non-aqueous medium
d. Nitritometry
e. Bromatometry

81. An analytic laboratory received "Aether anaestheticus" for analysis. Which reagent should be used for detection of acetone and aldehyde admixtures according to the State Pharmacopoeia of Ukraine?
a. Ammonium solution of argentum nitrate
b. Sodium hydrosulphite
c. Hydroxylamine solution
d. Alkaline solution of potassium tetraiodomercurate
e. Aqueous solution of potassium iodide

82. 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?
a. 2,4,6-tribromophenol
b. 3-bromophenol
c. 2,4-dibromophenol
d. 4-bromophenol
e. 2-bromophenol

83. The basic structure of steroid hormones is hydrocarbon skeleton - cyclopentane perhydrophenanthrene. What natural compound is used for testosterone propionate production?
a. Anthracene
b. Cholesterol
c. Naphthalene

d. Indole
e. Phenanthrene

84. 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?
a. Acid chrome blue
b. Neutral red
c. Crystal violet
d. Methyl red
e. Xylenol orange

85. 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?
a. Sodium edetate
b. Tetrabutyl ammonium hydroxide
c. Potassium bromate
d. Sodium nitrite
e. Ammonium thiocyanate

86. 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?
a. Thymolphthalein
b. Tropeoline 00
c. Methyl red
d. Crystal violet
e. Calconcarboxylic acid

87. An analytical chemist analyses the substance of ethylmorphine hydrochloride. The substance purity is tested by method of semi-microanalysis. What reagent is used to determine the water admixture?
a. Molibdeno-vanadium
b. Hypophosphite
c. Biuretic
d. Methoxyphenyl acetic acid
e. Iodosulphurous

88. According to the requirements of the Ukrainian State Pharmacopoeia, a certain drug is being measured by method of chelatometric titration. What drug is it?
a. Calcium chloride
b. Potassium chloride
c. Sodium thiosulfate
d. Sodium benzoate
e. Potassium citrate

89. An analytical laboratory carries out an analysis of ferrum sulphate heptohydrate according to the requirements of the State Pharmacopoeia of Ukraine. The test portion of the substance should be titrated with the following solution:
a. Potassium bromate
b. Ammonium cerium sulfate
c. Ammonium thiocyanate
d. Argentum nitrate
e. Sodium edetate

90. 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?

a. Sodium hydroxide
b. Sodium nitrite
c. Sodium edetate
d. Potassium bromate
e. Perchloric acid

91. A pharmacy analyst identifies sodium hydrocarbonate. What indicator can confirm the presence of alkalescent medium reaction in the sodium hydrocarbonate solution?
a. Ferroin
b. Naphtholbenzein
c. Starch
d. Tropeolin 00
e. Phenolphtalein

92. 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?
a. Pyridine
b. Dimethyl formamide
c. Methanol
d. Anhydrous acetic acid
e. Water

93. Calcium lactate can be quantitatively determined by chelatometric method. According to the Ukrainian State Pharmacopoeia, the following substance should be used as indicator:
a. Naphthol benzein
b. Diphenylcarbazone
c. Calconcarbon acid
d. Phenolphthalein
e. Tropeolin 00

94. Substance of calcium pangamate is to be studied in analytical laboratory. Calcium cation forms a white precipitate with the following reagent:
a. Sodium cobaltinitrite
b. Ammonium oxalate
c. Potassium permanganate
d. Sodium chloride
e. Potassium bromide

95. 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?
a. Bromatometry
b. Alkalimetry
c. Chelatometry
d. Nitritometry
e. Acidimetry

96. As main reagent in test for phosphates admixtures the Ukrainian State Pharmacopoeia recommends to use:
a. Hypophosphite
b. Sulfomolybdenum
c. Thioacetamide
d. Cupric tartrate
e. Acetylacetone

97. A common method for quantitative determination of drugs from the group of alkali metal halogenides is:

a. Alkalimetry
b. Nitritometry
c. Permanganatometry
d. Chelatometry
e. Argentometry

98. Salicylates are widely applied in medical practice as anti-inflammatory drugs. For quantitative analysis of salicylic acid the following method is applied:
a. Permanganatometry
b. Chelatometry
c. Nitritometry
d. Argentometry
e. Alkalimetry

99. Select the reductant required for the determination of arsenic impurity in drugs (method 2):
a. Hydrochloric acid solution
b. Sodium hydroxide solution
c. Potassium iodide solution
d. Sodium hypophosphite
e. Sodium sulfite solution

100. A pharmacy has sulfonamide biseptol on sale. What chemical compounds are the main components of this drug?
a. Sulfazin, salazodimethoxinum
b. Phthalazolum, sulfadimezin
c. Urosulfan, sulfapiridazin
d. Sulfamethoxazole, trimethoprim
e. Sulgin, norsulfazol

101. 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 brownish-red. As a result of this reaction the following aldehyde derivative is produced:
a. Glyoxylic
b. Hexanic
c. Gluconic
d. Glutamic
e. Glutakon

102. 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?
a. Setting of black precipitate
b. Setting of white precipitate
c. The solution will turn green
d. Emission of gas bubbles
e. The solution will turn purple

103. Which of the mentioned below drugs has the following chemical name: n-aminobenzoic acid diethylaminoethyl ester hydrochloride:
a. Streptocid
b. Dimedrol
c. Novocaine
d. Tetracaine
e. Streptomycin

104. Quantitative determination of nitrofural (furacilin) can be done by method of spectrophotometry. A pharmacy analyst can calculate quantity by measuring:

a. Refractive index
b. pH of solution
c. Fusion temperature
d. Optical density
e. Rotation angle

105. Analgin substance was sent for analysis. What method allows to evaluate quantitative content of analgin?
a. Alkalimetry
b. Acidimetry
c. Iodometry
d. Chelatometry
e. Permanganatometry

106. An analytical laboratory is studying substance of calcium lactate. In presence of ammonium chloride calcium cation forms white crystalline precipitation with the following reagent:
a. Sodium tetraborate
b. Sodium cobaltnitrite
c. Sodium chloride
d. Potassium permanganate
e. Potassium ferrocyanide

107. 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:
a. Trimecaine hydrochloride
b. Procaine hydrochloride
c. Tetracaine hydrochloride
d. Procainamide hydrochloride
e. Xycain

108. After a sulfamide preparation was heated with salicylic acid in presence of concentrated sulfuric acid, it turned crimson. What drug is analyzed?
a. Sulfaguine
b. Streptocid
c. Soluble streptocid
d. Ethazol
e. Phtalazol

109. 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?
a. Iron (III) chloride solution
b. Copper sulfate solution
c. Alkaline solution
d. Silver nitrate solution
e. Hydrochloric acid solution

110. A pharmaceutical company produces cordiamin solution. During the quality control its quantitative content was determined by means of refractometry. For this purpose an analytical chemist measured:
a. Viscosity
b. Intensity of absorption
c. Angle of rotation
d. Index of refraction
e. Density

111. 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?

a. Furan cycle
b. Thiadiazole cycle
c. Thiazolidine cycle
d. Isoxazole cycle
e. Beta-lactam cycle

112. Diethyl ether relates to simple ethers. Prior to its identification by using the boiling temperature an analytical chemist must ensure that there are no:

a. Peroxides
b. Alcohols
c. Carboxylic acids
d. Non-volatile residue
e. Reducing substances

113. In order to detect peroxides in the anesthetic ether an analytical chemist should use the following reagent:

a. Sodium thiosulfate
b. Sodium hydroxide
c. Potassium chloride
d. Potassium permanganate
e. Potassium iodide

114. An analytical laboratory received calcium gluconate for analysis. What method is used for its quantification?

a. Chelatometry
b. Iodometry
c. Nitritometric determination
d. Mercurimetric determination
e. Bromatometry

115. A laboratory is providing quantitative analysis of sodium citrate by method of ion-exchanging chromatography on a cationite. What titrated solution is to be used for the following titration of generated citric acid?

a. Sodium hydroxide
b. Potassium iodate
c. Trilon B
d. Hydrochloric acid
e. Iodine

116. 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:

a. Methionine
b. Paracetamol
c. Ascorbic acid
d. Streptocide
e. Cortisone acetate

117. 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:

a. Pink
b. Yellow
c. Colourless
d. Dark blue
e. Green

118. 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?

a. Blue
b. Black
c. Green
d. Yellow
e. Pink

119. Anesthesin relates to substances with local anesthetic activity and is a derivative of the following acid:

a. Para-chlorbenzoic
b. Para-aminophthalic
c. Para-aminosalicylic
d. Para-aminobenzolsulfonic
e. Para-aminobenzoic

120. 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:

a. Formaldehyde
b. Benzaldehyde
c. Resorcin
d. Pyridine
e. Hydroxyquinoline

121. 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:

a. Iodochlorometry
b. Alkalimetry
c. Acidimetry
d. Iodometry
e. Bromatometry

122. 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?

a. Hydrochloric acid
b. Sodium edetate
c. Iodine monochloride
d. Potassium permanganate
e. Argentum nitrate

123. Prior hydrolysis is necessary in case of quantitative determination of the following drug by the nitritometric titration:

a. Procaine hydrochloride
b. Anesthesin
c. Paracetamol
d. Sodium p-aminosalicylate
e. Dicaine

124. 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?

a. Phthalazol
b. Paracetamol
c. Soluble streptocid
d. Sulfadimine
e. Phthazin

125. An analytical chemist determines the admixture of sulphates in the boric acid. What is the main reagent to be added?

a. Barium chloride
b. Potassium ferrocyanide
c. Ammonium oxalate
d. Silver nitrate
e. Sodium sulphide

126. 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?

a. Secondary aromatic amino
b. Carboxyl group
c. Aldehyde group
d. Primary aromatic amino
e. Sulpho group

127. 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?

a. Starch
b. Potassium chromate
c. Sodium eozinat
d. Phenolphtalein
e. Ammonium iron (III) sulfate

128. Quantitative determination of silver nitrate is done by method of thiocyanatometry. What indicator is used in this case?

a. Methylene blue
b. Sodium eosinate
c. Phenolphtalein
d. Potassium chromate
e. Iron (III) ammonium sulphate

129. A pharmacy analyst is determining one of the following drugs by the nintritometric method. What drug is it?

a. Analgin
b. Ftivazide
c. Norsulfazole
d. Ammonium chloride
e. Atropine sulfate

130. Specify the reaction to the ester-type drugs that is tolerated by the State Pharmacopoeia of Ukraine:

a. Formation of indophenol
b. Formation of azo dye
c. Formation of iron hydroxamates
d. Formation of 3-bromphenol
e. -

131. Streptocide, sulfacyl sodium, norsulfazole or sulfadimezinum can be identified by means of the reaction to form:

a. Iodoform
b. Murexide
c. Azo dye
d. Fluorescein
e. -

132. 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?
a. Furacilinum and calcium chloride
b. Hexamethylenetetramine and hydrazine sulphate
c. Sodium chloride and calcium nitrate
d. Calcium sulphate and glycerin
e. Potassium chloride and barium sulphate

133. 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?
a. Eriochrome black
b. Crystal violet
c. Phenolphtalein
d. Methyl orange
e. Thymolphthalein

134. Which of the following drugs can be quantified by an analytical chemist by ceriometry method?
a. Phenyl salycylate
b. Phenobarbital
c. Acetylsalicylic acid
d. Sodium benzoate
e. Vicasolum

135. 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?
a. Calcium bromate
b. Sodium nitrite
c. Silver nitrate
d. Sodium thiosulfate
e. Sodium edetate

136. In order to identify a drug an analytical chemist of the State Inspectorate for Quality Control performs a lignin test. Specify this drug:
a. Analgin
b. Streptocid
c. Cortisone acetate
d. Ascorbic acid
e. Methionine

137. An expert of an analytical laboratory is determining Ca2+ in the substance of calcium pantothenate. Specify the method of analysis:
a. Nitritometry
b. Permanganatometry
c. Iodometry
d. Chelatometry
e. Argentometry

138. An analytical chemist is providing quantitative analysis of procaine hydrochloride. Which of the following solutions is to be used?
a. Potassium bromate
b. Argentum nitricum
c. Sodium thiosulfate
d. Sodium edetate
e. Sodium nitrite

139. 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?

a. Potassium iodide solution
b. Potassium nitrate solution
c. Iron (III) chloride solution
d. Ammonia solution
e. Iodine solution

140. 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:
a. Acidimetry in non-aqueous medium
b. Iodometry
c. Bromatometry
d. Nitritometry
e. Acidimetry in aqueous medium

141. An analytical laboratory received "Aether anaestheticus" for analysis. What reagent should be used for detecting acetone and aldehyde impurities according to the State Pharmacopoeia of Ukraine?
a. Aqueous solution of potassium iodide
b. Ammonium solution of argentum nitrate
c. Alkaline solution of potassium tetraiodomercurate
d. Sodium hydrosulfite solution
e. Hydroxylamine solution

142. 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?
a. 3-bromophenol
b. 2-bromophenol
c. 2,4,6-tribromophenol
d. 4-bromophenol
e. 2,4-dibromophenol

143. The basic structure of steroid hormones is hydrocarbon skeleton - cyclopentane perhydrophenanthrene. What natural compound is used for testosterone propionate production?
a. Phenanthrene
b. Anthracene
c. Indole
d. Naphthalene
e. Cholesterol

144. 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?
a. Neutral red
b. Crystal violet
c. Acid chrome blue
d. Xylenol orange
e. Methyl red

145. 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?
a. Ammonium thiocyanate
b. Sodium edetate
c. Sodium nitrite
d. Potassium bromate
e. Tetrabutyl ammonium hydroxide

146. 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?

a. Methyl red
b. Thymolphthalein
c. Tropeoline 00
d. Calconcarboxylic acid
e. Crystal violet

147. 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?

a. Formic
b. Chromotropic
c. Oxalic
d. Citric
e. Sulfuric

148. 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:

a. Potassium bromate
b. Ammonium cerium sulfate
c. Ammonium thiocyanate
d. Silver nitrate
e. Sodium edetate

149. 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?

a. Perchloric acid
b. Potassium bromate
c. Sodium nitrite
d. Sodium hydroxide
e. Sodium edetate

150. A pharmacy analyst identifies sodium hydrocarbonate. What indicator can confirm the presence of alkalescent medium reaction in the sodium hydrocarbonate solution?

a. Phenolphtalein
b. Tropeolin 00
c. Naphtholbenzein
d. Ferroin
e. Starch

151. 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?

a. Dimethyl formamide
b. Methanol
c. Pyridine
d. Water
e. Anhydrous acetic acid

152. 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:

a. Sodium hydroxide
b. Potassium bromate
c. Sodium methylate
d. Zinc sulfate

e. Sodium thiosulfate

153. Calcium lactate can be quantitatively determined by chelatometric method. According to the Ukrainian State Pharmacopoeia, the following substance should be used as indicator:

a. Diphenylcarbazone
b. Phenolphthalein
c. Tropeolin 00
d. Calconcarbon acid
e. Naphthol benzein

154. Substance of calcium pangamate is to be studied in an analytical laboratory. Calcium cation forms a white precipitate with the following reagent:

a. Sodium cobaltinitrite
b. Ammonium oxalate
c. Potassium permanganate
d. Sodium chloride
e. Potassium bromide

155. 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?

a. Chelatometry
b. Nitritometry
c. Acidimetry
d. Bromatometry
e. Alkalimetry

156. Select the reductant required for the determination of arsenic impurity in drugs (method 2):

a. Sodium hydroxide solution
b. Potassium iodide solution
c. Hydrochloric acid solution
d. Sodium sulfite solution
e. Sodium hypophosphite

157. Theobromine and theophylline can be determined by alkalimetric method according to the substituent. What acid is to be titrated with sodium hydroxide?

a. Sulfuric
b. Chydrochloric
c. Nitric
d. Acetic
e. Phosphoric

158. 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:

a. Alkalimetry
b. Nitritometry
c. Complexonometry
d. Acidimetry
e. Iodatometry

159. 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 brownish-red. As a result of this reaction the following aldehyde derivative is produced:

a. Glyoxylic
b. Hexanic
c. Gluconic

d. Glutamic
e. Glutaconic

160. In order to verify identity of tropan derivatives, Vitalis 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?
a. The solution will turn green
b. Setting of black precipitate
c. Setting of white precipitate
d. The solution will turn purple
e. Emission of gas bubbles

161. Quantitative determination of nitrofural (furacilin) can be done by method of spectrophotometry. A pharmacy analyst can calculate quantity by measuring:
a. pH of solution
b. Fusion temperature
c. Refractive index
d. Rotation angle
e. Optical density

162. Analgin substance has been sent for analysis. What method allows to evaluate quantitative content of analgin?
a. Chelatometry
b. Permanganatometry
c. Acidimetry
d. Alkalimetry
e. Iodometry

163. An analytical laboratory is studying substance of calcium lactate. In presence of ammonium chloride calcium cation forms white crystalline precipitation with the following reagent:
a. Potassium permanganate
b. Sodium chloride
c. Potassium ferrocyanide
d. Sodium tetraborate
e. Sodium cobaltnitrite

164. Analytical laboratories oten use 2,6-dichlorophenolindophenol solution, which is normally blue and can be decolourized by the reducing agents. What drug can be identified by means of 2,6-dichlorophenolindophenol solution?
a. Benzoic acid
b. Acetylsalicylic acid
c. Salicylic acid
d. Nicotinic acid
e. Ascorbic acid

165. 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:
a. Xycain
b. Trimecaine hydrochloride
c. Procainamide hydrochloride
d. Tetracaine hydrochloride
e. Procaine hydrochloride

166. After a sulfamide preparation was heated with salicylic acid in presence of concentrated sulfuric acid, it turned crimson. What drug is analyzed?
a. Ethazol
b. Phtalazol

c. Streptocid
d. Sulfaguine
e. Soluble streptocid

167. 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:
a. 1,3110
b. 1,3440
c. 1,3550
d. 1,3330
e. 1,3220

168. A pharmaceutical company produces cordiamin solution. During the quality control its quantitative content was determined by means of refractometry. For this purpose an analytical chemist measured:
a. Index of refraction
b. Density
c. Angle of rotation
d. Intensity of absorption
e. Viscosity

169. Under the analytical normative documents, atropine sulfate should be titrated with hydrochloric acid solution in the anhydrous acetic acid medium in the presence of the following indicator:
a. Phenolphtalein
b. Thymol blue
c. Crystal violet
d. Methyl orange
e. Methylene blue

170. Under the analytical normative documents, prior to direct bromatometric determination of arsenous acid anhydride the following substance should be added to the analyzed solution:
a. Sodium thiosulfate
b. Sodium hydroxide
c. Potassium nitrate
d. Sodium chloride
e. Potassium bromide

171. Diethyl ether relates to simple ethers. Prior to its identification by using the boiling temperature an analytical chemist must ensure that there are no:
a. Reducing substances
b. Non-volatile residue
c. Carboxylic acids
d. Peroxides
e. Alcohols

172. A pharmaceutical analyst of an analytical laboratory performs quantitative determination of silver nitrate by thiocyanatometry. What indicator is used in this case?
a. Sodium eosinate
b. Phenolphtalein
c. Starch
d. Iron (III) ammonium sulphate
e. Potassium chromate

173. An analytical laboratory received calcium gluconate for analysis. What method is used for its quantification?
a. Mercurimetric determination
b. Nitritometric determination
c. Bromatometry

d. Iodometry
e. Chelatometry

174. An analytical laboratory carries out quantitative analysis of sodium citrate by method of ion-exchanging chromatography on a cationite. What titrated solution is to be used for the following titration of generated citric acid?
a. Hydrochloric acid
b. Trilon B
c. Iodine
d. Potassium iodate
e. Sodium hydroxide

175. A chemist of the production unit for ampouled medicinal preparations analyzes injectable solution of calcium chloride. According to the requirements, the analyzed solution should be colorless. To meet this requirement, the analyte should be compared to:
a. Water
b. Acetone
c. Chloroform
d. Hydrochloric acid
e. Alcohol

176. A pharmacy analyst can verify presence of iron cation (II) in a drug formulation by means of the following solution:
a. Ammonium sulfide
b. Magnesium sulfate
c. Sodium phosphate
d. Potassium bromide
e. Sodium chloride

177. Quantitative determination of pyridine derivatives is performed by acidimetry in nonaqueous medium. What titrant is used for this purpose?
a. Nitric acid
b. Sulfuric acid
c. Perchlorate acid
d. Sodium hydroxide
e. Sodium thiosulfate

178. 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?
a. Diphenylamine
b. Silver nitrate
c. Ammonium oxalate
d. Barium chloride
e. Lead (II) acetate

179. Quantitative analysis of boric acid can be performed by alkalimetric titration in the presence of:
a. Ammonia buffer
b. Ethyl alcohol
c. Mannitol
d. Mercury (II) acetate
e. Nitric acid

180. 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?
a. Pink
b. Yellow

c. Black
d. Blue
e. Green

181. 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:
a. Acidimetry
b. Iodometry
c. Alkalimetry
d. Bromatometry
e. Iodochlorometry

182. Codeine can be derived for medical purposes out of a plant alkaloid by means of semisynthetic method. Name this alkaloid:
a. Chelidonine
b. Morphine
c. Berberine
d. Papaverine
e. Protopine

183. An analytical chemist of the quality control department of a pharmaceutical plant has to determine the average weight of glibenclamide tablets. How many tablets should be tested for this purpose?
a. 50
b. 30
c. 10
d. 5
e. 20

184. In order to identify deoxycorticosterone acetate a pharmaceutical analyst performed a steroid cycle reaction which produced cherry-red color and green fluorescence. What reagent was added?
a. Iron (III) chloride solution
b. Iodine solution
c. Concentrated sulfuric acid
d. Chloroform
e. Potassium hydroxide solution

185. 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?
a. Sodium nitrate
b. Aniline
c. Calcium bromide
d. Ninhydrin
e. Benzene

186. 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?
a. Acetic acid
b. Potassium sulfate
c. Phenolphtalein
d. Iron (III) cloride
e. Potassium tetraiodomercurate alkaline

187. Which of the following antibiotics can be identified by means of the maltol formation test?
a. Kanamycin monosulfate
b. Streptomycin sulfate
c. Amoxicillin

d. Doxycycline hydrochloride
e. Lincomycin hydrochloride

188. Prior hydrolysis is necessary in case of quantitative determination of the following drug by the nitritometric titration:
a. Anesthesin
b. Sodium p-aminosalicylate
c. Dicaine
d. Paracetamol
e. Procaine hydrochloride

189. 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?
a. Sulfadimine
b. Phthazin
c. Soluble streptocid
d. Paracetamol
e. Phthalazol

190. 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:
a. Phenolic hydroxyl
b. Aldehyde group
c. Keto group
d. Alcoholic hydroxyl
e. Carboxyl group

191. A pharmaceutical analyst identifies the substance of potassium acetate. What reagent confirms the presence of potassium cation in the analyte?
a. Sodium hydroxide
b. Iron (III) chloride
c. Zinc oxide
d. Tartaric acid
e. Potassium permanganate

192. An analytical chemist makes a test for the presence of sodium thiosulphate. Select a reagent which allows to detect the thiosulphate ion:
a. Sodium bromide
b. Sodium hydroxide
c. Magnesium sulfate
d. Hydrochloric acid
e. Potassium iodide

193. 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?
a. Yellow
b. Green
c. Brown
d. Violet
e. Blue

194. An analytical chemist determines the admixture of sulphates in the boric acid. What is the main reagent to be added?
a. Ammonium oxalate
b. Barium chloride
c. Potassium ferrocyanide

d. Sodium sulphide
e. Silver nitrate

195. What solution is used for the detection of iron (II) ions under the SPhU requirements?
a. Potassium ferricyanide
b. Lanthanum nitrate
c. Silver nitrate
d. Sodium hydroxide
e. Ammonia

196. 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?
a. Silver nitrate
b. Barium chloride
c. Sodium hydroxide
d. Concentrated sulfuric acid
e. Copper (II) sulfate

197. 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?
a. Aldehyde group
b. Primary aromatic amino
c. Sulpho group
d. Secondary aromatic amino
e. Carboxyl group

198. Under the SPh of Ukraine, one of the reactions for the detection of calcium cation presence in drugs is the reaction with:
a. Alizarin
b. Sulfuric acid
c. Hydroxyquinoline
d. Hydroxylamine
e. Glyoxal-hydroxyanil

199. 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?
a. Potassium chromate
b. Ammonium iron (III) sulfate
c. Starch
d. Phenolphtalein
e. Sodium eozinat

200. 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?
a. Silver
b. Bismuth
c. Zinc
d. Lead
e. Copper

201. Specify the reaction to the ester-type drugs that is tolerated by the State Pharmacopoeia of Ukraine:
a. Formation of azo dye
b. Formation of 3-bromphenol
c. -
d. Formation of iron hydroxamates
e. Formation of indophenol

202. Streptocide, sulfacyl sodium, norsulfazole or sulfadimezinum can be identified by means of the reaction to form:

a. Fluorescein
b. -
c. Murexide
d. Iodoform
e. Azo dye

203. 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?

a. Calcium sulphate and glycerin
b. Potassium chloride and barium sulphate
c. Furacilinum and calcium chloride
d. Hexamethylenetetramine and hydrazine sulphate
e. Sodium chloride and calcium nitrate

204. 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?

a. Phenolphtalein
b. Methyl orange
c. Crystal violet
d. Thymolphthalein
e. Eriochrome black

205. Which of the following drugs can be quantified by an analytical chemist by ceriometry method?

a. Acetylsalicylic acid
b. Phenyl salycylate
c. Phenobarbital
d. Vicasolum
e. Sodium benzoate

206. 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?

a. Silver nitrate
b. Sodium thiosulfate
c. Sodium edetate
d. Calcium bromate
e. Sodium nitrite

207. In order to identify a drug an analytical chemist of the State Inspectorate for Quality Control performs a lignin test. Specify this drug:

a. Methionine
b. Analgin
c. Ascorbic acid
d. Cortisone acetate
e. Streptocid

208. A pharmacist-analyst carries out quantitative analysis of procaine hydrochloride. Which of the following solutions is to be used?

a. Argentum nitricum
b. Sodium nitrite
c. Sodium edetate
d. Sodium thiosulfate
e. Potassium bromate

209. 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?
a. Iron (III) chloride solution
b. Potassium iodide solution
c. Potassium nitrate solution
d. Iodine solution
e. Ammonia solution

210. An analytical laboratory received "Aether anaestheticus" for analysis. What reagent should be used for detecting acetone and aldehyde impurities according to the State Pharmacopoeia of Ukraine?
a. Hydroxylamine solution
b. Alkaline solution of potassium tetraiodomercurate
c. Aqueous solution of potassium iodide
d. Ammonium solution of argentum nitrate
e. Sodium hydrosulfite solution

211. 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?
a. 2,4-dibromophenol
b. 2,4,6-tribromophenol
c. 3-bromophenol
d. 2-bromophenol
e. 4-bromophenol

212. The basic structure of steroid hormones is hydrocarbon skeleton - cyclopentane perhydrophenanthrene. What natural compound is used for testosterone propionate production?
a. Indole
b. Phenanthrene
c. Anthracene
d. Cholesterol
e. Naphthalene

213. 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?
a. Potassium bromate
b. Sodium nitrite
c. Tetrabutyl ammonium hydroxide
d. Ammonium thiocyanate
e. Sodium edetate

214. An analytical chemist analyses the substance of ethylmorphine hydrochloride. The substance purity is tested by method of semi-microanalysis. What reagent is used to determine the water admixture?
a. Methoxyphenyl acetic acid
b. Biuretic
c. Iodosulphurous
d. Molibdeno-vanadium
e. Hypophosphite

215. According to the requirements of the Ukrainian State Pharmacopoeia, a certain drug is being measured by method of chelatometric titration. What drug is it?
a. Potassium citrate
b. Sodium benzoate
c. Sodium thiosulfate
d. Calcium chloride
e. Potassium chloride

216. 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?

a. Chromotropic
b. Sulfuric
c. Citric
d. Oxalic
e. Formic

217. 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:

a. Ammonium thiocyanate
b. Silver nitrate
c. Ammonium cerium sulfate
d. Sodium edetate
e. Potassium bromate

218. 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:

a. Sodium methylate
b. Zinc sulfate
c. Sodium thiosulfate
d. Sodium hydroxide
e. Potassium bromate

219. Substance of calcium pangamate is to be studied in n analytical laboratory. Calcium cation forms a white precipitate with the following reagent:

a. Potassium bromide
b. Sodium cobaltinitrite
c. Sodium chloride
d. Potassium permanganate
e. Ammonium oxalate

220. 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?

a. Alkalimetry
b. Chelatometry
c. Bromatometry
d. Acidimetry
e. Nitritometry

221. As main reagent in test for phosphates admixtures the Ukrainian State Pharmacopoeia recommends to use:

a. Cupric tartrate
b. Acetylacetone
c. Hypophosphite
d. Sulfomolybdenum
e. Thioacetamide

222. A common method for quantitative determination of drugs from the group of alkali metal halogenides is:

a. Chelatometry
b. Permanganatometry
c. Argentometry
d. Alkalimetry
e. Nitritometry

223. Select the reductant required for the determination of arsenic impurity in drugs (method 2):

a. Sodium hypophosphite

b. Sodium sulfite solution

c. Potassium iodide solution

d. Sodium hydroxide solution

e. Hydrochloric acid solution

224. In order to verify identity of tropan derivatives, Vitalis 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?

a. Emission of gas bubbles

b. The solution will turn green

c. The solution will turn purple

d. Setting of black precipitate

e. Setting of white precipitate

225. Which of the mentioned below drugs has the following chemical name: n-aminobenzoic acid diethylaminoethyl ester hydrochloride:

a. Streptomycin

b. Novocaine

c. Streptocid

d. Dimedrol

e. Tetracaine

226. Analgin substance has been sent for analysis. What method allows to evaluate quantitative content of analgin?

a. Permanganatometry

b. Iodometry

c. Alkalimetry

d. Acidimetry

e. Chelatometry

227. An analytical laboratory is studying substance of calcium lactate. In presence of ammonium chloride calcium cation forms white crystalline precipitation with the following reagent:

a. Sodium chloride

b. Sodium tetraborate

c. Sodium cobaltnitrite

d. Potassium ferrocyanide

e. Potassium permanganate

228. Analytical laboratories oten use 2,6-dichlorophenolindophenol solution, which is normally blue and can be decolourized by the reducing agents. What drug can be identified by means of 2,6-dichlorophenolindophenol solution?

a. Acetylsalicylic acid

b. Ascorbic acid

c. Nicotinic acid

d. Salicylic acid

e. Benzoic acid

229. 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?

a. Silver nitrate solution

b. Hydrochloric acid solution

c. Iron (III) chloride solution

d. Copper sulfate solution

e. Alkaline solution