

1. It is required to prove the presence of bismuth ions in the mineral residue. What preliminary reaction is used for this purpose?

- A. With 8-hydroxyquinoline
- B. With copper acetate
- C. With potassium chromate
- D. With dithizone
- E. With sodium rhodizonate

2. A pharmacy prepared a solution of macromolecular substance with limited swelling capacity. What solution was labelled "warm up before use"?

- A. Gelatin
- B. Trypsin
- C. Pepsin
- D. Methyl cellulose
- E. Pancreatin

3. A pharmacy received a prescription for ethyl alcohol. What amount of alcohol can be dispensed to the patient with diabetes free of charge?

- A. 100 g per month
- B. 150 g per month
- C. 50 g per month
- D. 200 g per month
- E. There is no standard

4. Schedule of sanitation actions in pharmacies is regulated by the relevant regulatory acts. Cleaning day at a pharmacy must be scheduled for at least 1 time:

- A. In a month
- B. In a week
- C. In 3 days
- D. In 10 days
- E. In 5 days

5. 6 months after treatment a patient with coronary heart disease developed tolerance to the prolonged-action nitrates. What drug with nitrate-similar effect should be recommended in this case?

- A. Molsidomine
- B. Nifedipine
- C. Prazosin
- D. Verapamil
- E. Metoprolol

6. Losartan for treatment of arterial hypertension is contraindicated in case of:

- A. Pregnancy
- B. Hyperglycemia
- C. Urine acid diathesis
- D. Hyperlipidemia
- E. Hypokalemia

7. A patient with hypertensive crisis has been given an intravenous injection of clonidine. What mechanism underlies the antihypertensive effect of clonidine?

- A. Stimulation of the central presynaptic α_2 -adrenergic receptors
- B. Blockade of peripheral α_1 -adrenergic receptors
- C. Blockade of β -adrenergic receptors
- D. Blockade of *N*-cholinergic receptors
- E. Direct myotropic effect on blood vessels

8. A patient with the symptoms of cardiac glycoside intoxication has been administered unithiol. What is the mechanism of therapeutic action of this drug?

- A. Reactivation of the membrane K^+ , Na^+ -ATPase
- B. Binding of the ionized Ca^{2+}
- C. Increased penetration of K^+ into the cardiac myocytes
- D. Increase in Na^+ level in the myocardium
- E. Induction of cardiac glycosides metabolism

9. A 38-year-old male patient with mercuric chloride intoxication has been delivered to the admission ward in grave condition. What antidote must be immediately administered the patient?

- A. Unithiol
- B. Dipyrroxime
- C. Atropine
- D. Nalorphine
- E. Isonitrozinum

10. Standard herbal material of lily-of-the-valley is obtained by drying it at a temperature of 50-60°C in order to prevent the following possible biochemical process:

- A. Enzymatic hydrolysis of cardiac glycosides
- B. Oxidation of phenolic compounds
- C. Volatilization of essential oils
- D. Oxidation of resins
- E. Oxidation of terpenoids

11. 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

hydroxide followed by adding the solution of iron (III) chloride?

- A. Phenoxymethylpenicillin
- B. Streptocid
- C. Dibazolium
- D. Antipyrine
- E. Papaverine hydrochloride

12. A pharmaceutical plant produces spissum extract with 0,25% ammonia solution used as an extractant. This is a spissum extract of:

- A. Licorice
- B. Sagebrush
- C. Valerian
- D. Male fern
- E. Motherwort

13. A person got poisoned with the lead compounds. What is the most sensitive method of the quantitative analysis of lead ions?

- A. Atomic absorption spectrometry
- B. Gravimetry
- C. Chelatometry
- D. Dichromate iodimetry
- E. Photometry

14. A marketing manager of a pharmaceutical company carries out market research on vitamin preparation market. He takes into account various parameters including the therapeutical effectiveness, supply and demand. What method should be applied?

- A. Delphi method
- B. Mathematical statistics method
- C. Graph method
- D. Method of extraction from the original medical records
- E. -

15. A factory workshop producing suspensions and emulsions is going to develop the manufacture of new drugs. What mechanisms can be used for the ultrasound processing of drugs?

- A. Liquid whistle, magnetostrictive source
- B. Dismembrator, electrical impulse plasmolyzer
- C. Disintegrator, liquid whistle
- D. Rotor-pulsation apparatus, dismembrator
- E. Centrifugal mixer with rotating housing

16. A pharmacist prepared a lipophilic ointment of suspension type. What substance is used for preparing this kind

of ointments?

- A. Xeroform
- B. Protargolum
- C. Menthol
- D. Tannin
- E. Herbal extracts

17. A pharmacist has a labour dispute with the pharmacy administration about rescheduling his annual vacation leave. The employee can appeal against the decision of the pharmacy administration to the following body:

- A. Labour disputes commission (LDC)
- B. Trade union committee
- C. Highest management bodies of pharmaceutical service at the regional level
- D. MoH of Ukraine
- E. Commercial court

18. Medications *Passit* and *Novopassit* are used as tranquilizing, sedative and mild hypnotic agents. These medications are produced from the following grass:

- A. Purple passionflower
- B. Three-lobe beggarticks
- C. Garden sage
- D. Elecampane
- E. Lesser periwinkle

19. During transportation, the markings on the packages of theobromine and theophylline were damaged. What solution allows to identify theobromine and theophylline?

- A. Cobalt chloride
- B. Sodium chloride
- C. Copper nitrate
- D. Potassium permanganate
- E. Potassium dichromate

20. Which of the following antihypertensive drugs has potassium-sparing action?

- A. Triamterene
- B. Furosemide
- C. Prazosin
- D. Metoprolol
- E. Diltiazem

21. What drug acts as a specific antidote in case of iron drug intoxication?

- A. Deferoxamine
- B. Protamine sulfate
- C. Bemegride
- D. Atropine
- E. Penicillamine

- 22.** A regional medical representative of a foreign company uses the data derived from periodicals and reference and statistical materials in order to characterize the territorial pharmaceutical market. What kind of market research is based upon these sources?
- A.** Desk studies
 - B.** Field studies
 - C.** This method does not apply to research
 - D.** All answers are correct
 - E.** -
- 23.** A pharmacist was on a business trip. What is the deadline for submitting a travel expense report?
- A.** Three working days after returning from a trip
 - B.** Four working days after returning from a trip
 - C.** Ten working days after returning from a trip
 - D.** A week after returning from a trip
 - E.** There is no deadline
- 24.** An accountable person (accountant) has been given some cash from the cash account of the company for the purchase of stationery goods. What is the deadline for submitting a full statement of the accountable person on the cash use after receiving the cash?
- A.** Third banking day
 - B.** Five working days
 - C.** Ten working days
 - D.** One week
 - E.** There is no fixed term
- 25.** A pharmacist prepares trituration of atropine sulfate. What adjuvant should be used for this purpose?
- A.** Lactose
 - B.** Saccharose
 - C.** Glucose
 - D.** Starch
 - E.** Talc
- 26.** A pharmaceutical factory produces tablets of sodium chloride. What is the method of their production?
- A.** Direct compression without additional substances
 - B.** Moulding
 - C.** Direct compression with the addition of excipients
 - D.** Wet granulation prior to compression
 - E.** Dry granulation prior to compression
- 27.** A pharmaceutical factory produces suspensions and emulsions. Specify the equipment which is used for dispersion and mixing in the liquid medium:
- A.** Rotor-pulsation apparatus, colloid mixers
 - B.** Drum mixers
 - C.** Oscillating mixers
 - D.** Anchor mixers
 - E.** Gate mixers
- 28.** A pharmacist prepared eye drops containing silver nitrate. What substance must be taken to ensure isotonicity?
- A.** Sodium nitrate
 - B.** Sodium chloride
 - C.** Boric acid
 - D.** Glucose
 - E.** Sodium sulfate
- 29.** In order to detect the presence of thiosulfate ions a pharmaceutical analyst added the excess reagent. The resulting reaction produced a white precipitate, which slowly turned yellow, then brown, and black. What solution was added?
- A.** Silver nitrate
 - B.** Barium chloride
 - C.** Ammonium oxalate
 - D.** Lead (II) acetate
 - E.** Diphenylamine
- 30.** Collective labour agreement is concluded by a trade union committee with the enterprise owner on behalf of the workforce. Any collective agreement is worked out in written form. Which article of the Labor Code regulates the duration of the collective agreement?
- A.** 17
 - B.** 36
 - C.** 38
 - D.** 40
 - E.** 41
- 31.** A person got poisoned with salts of manganese. Analysis of the mineral residue revealed manganese ions. What reactions underlie the chemical processes of manganese detection?
- A.** Oxidation-reduction
 - B.** Hydrolysis
 - C.** Dissociation
 - D.** Neutralization
 - E.** Metathesis
- 32.** A pharmacist prepares a solution for injections that must be stabilized with

0,1M of hydrochloric acid solution. What solution is to be prepared?

- A. Novocaine
- B. Calcium chloride
- C. Potassium chloride
- D. Hexamethylenetetramine
- E. Sodium benzoate

33. 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:

- A. Phenolic hydroxyl
- B. Aldehyde group
- C. Keto group
- D. Ester group
- E. Alcoholic hydroxyl

34. Production of tablets requires stage-to-stage quality control. What devices are used to determine the particle size distribution (fraction) of granules?

- A. Standard set of sieves
- B. Various vibrosieves
- C. Friabilators
- D. Laboratory IDs
- E. Microscope

35. Analysis of the drug sales performance revealed market expansion, the absolute increase of the drug in manufacturer's stocks, slowdown in the growth rate of sales, intense competition. What stage of the product life cycle is the drug in?

- A. Maturity
- B. Introduction
- C. Growth
- D. Development
- E. Saturation and decline

36. Anthracene derivatives of emodin have purgative effect. Large quantities of anthracene-derived groups of emodin are contained in the fruits of the following plant:

- A. Buckthorn
- B. Elder (Sambucus)
- C. Blackcurrant
- D. Blueberry (Vaccinium myrtillus)
- E. Alder buckthorn (Frangula alnus)

37. Theory of management currently points out four the most important approaches to the management. Select the approach that is **NOT** applied in the theory of management:

- A. Structured
- B. Process approach
- C. Systemic
- D. Situational
- E. Different schools dedication approach

38. A pharmacist worked on a holiday, and the time worked was within the normal working hours of the current month. The employee would be entitled to be paid:

- A. Fixed salary + one daily rate
- B. Fixed salary + double daily rate
- C. According to the standard procedure as for a normal working day
- D. There would be no penalty rates
- E. Single piecework rate

39. A pharmacy has a license for selling narcotic drugs. The warrant for the receipt of these drugs from the pharmacy warehouse is valid for:

- A. No longer than 10 calendar days from the date of issue
- B. No longer than three months from the date of issue
- C. No longer than one calendar days from the date of issue
- D. No longer than one year from the date of issue
- E. No longer than five calendar days from the date of issue

40. Help the doctor to select a drug for the replacement therapy after the thyroid gland removal:

- A. L-thyroxine
- B. Insulin
- C. Prednisolone
- D. Parathyroidin
- E. Mercazolilum

41. Chloride of lime is identified by calcium cations after boiling with acetic acid in order to eliminate active chlorine. What reagent is used?

- A. Ammonium oxalate
- B. Magnesium sulfate
- C. Potassium chloride
- D. Sodium nitrite
- E. Ammonium molybdate

42. The medicine "Bismuthi subnitras" can be identified after dissolving it in the acid with the following reagent:

- A. Potassium iodide
- B. Sodium chloride
- C. Sodium sulfate
- D. Potassium chlorate
- E. Potassium nitrate

43. Sterilization methods used for the preparation of drugs under aseptic conditions can be differentiated into physical, mechanical, and chemical ones. Specify the chemical method of sterilization:

- A. Addition of preservatives
- B. Dry heat sterilization
- C. Radiation sterilization
- D. Pressure steam sterilization
- E. UV light sterilization

44. Activity of a company leader involves managerial decision-making aimed at the achievement of corporate goals. Which of the following decisions are **NOT classified** by the method of justification?

- A. Standard
- B. Intuitive
- C. Decisions based upon judgements
- D. Rational
- E. -

45. Pharmacies prepare triturations of toxic and superpotent substances. They can be prepared in a following ratio:

- A. 1:10 and 1:100
- B. 1:10 only
- C. 1:1000
- D. 1:500
- E. 1:100 only

46. It is required to prepare furacilin solution (1:5000). What is the dissolution peculiarity of furacilin?

- A. It dissolves in the boiling water purified in the presence of sodium chloride
- B. It dissolves in the cold purified water
- C. It dissolves in a minimal amount of ethyl alcohol
- D. It dissolves in the purified water after the trituration
- E. It dissolves in the filtered purified water

47. The method of suspension preparation depends on the properties of its components. Specify the substances having hydrophobic properties:

- A. Camphor, menthol
- B. Sodium bicarbonate, sodium sulfate
- C. Boric acid, calcium carbonate
- D. Zinc oxide, talc
- E. White clay, bentonite

48. A patient has been prescribed hand-rolled rectal suppositories with 0,1 g of aminophylline. What is the amount of base required for each suppository, provided that the suppository weight is not specified in the formulation?

- A. 2,9 g
- B. 3,9 g
- C. 2,4 g
- D. 1,9 g
- E. 1,4 g

49. Pharmaceutical depot received a batch of herbal material of cinnamon rose. What substance determines the quality of the raw material?

- A. Ascorbic acid
- B. Tannins
- C. Anthracene derivatives
- D. Essential oil
- E. Coumarins

50. A pharmacist prepares an ointment on a hydrophobic base. What substance does he use in order to reduce the melting point of the base?

- A. Vaseline oil
- B. Glycerol
- C. PEG-40
- D. Dimexide
- E. Ethanol

51. In order to identify deoxycorticosterone acetate a pharmaceutical analyst performed a steroid cycle reaction, which resulted in formation of cherry-red colour and a green fluorescence. What reagent was added?

- A. Concentrated sulfuric acid
- B. Iodine solution
- C. Iron (III) chloride solution
- D. Chloroform
- E. Potassium hydroxide solution

52. 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. Ninhydrin
- B. Sodium nitrate
- C. Benzene
- D. Aniline
- E. Calcium bromide

53. A retail pharmacy has been purchasing goods within an accounting period. What changes to the balance will result from this

business transaction?

- A. Increase in assets and liabilities
- B. Decrease in assets and liabilities
- C. Changes will be caused to the assets only
- D. Changes will be caused to the liabilities only
- E. -

54. Leaves of greater plantain are harvested in summer by mowing or cutting them with a knife or a sickle. There is always one developed plant left per 1 m². The plant is harvested in the following vegetation period:

- A. Blooming
- B. Budding
- C. Rosetting
- D. Beginning of fruiting
- E. Ripeness

55. A manufacturing enterprise plans to sell a new drug through the corporate chain of pharmacies. What strategy of drug distribution would be used?

- A. Direct
- B. Multi-echelon
- C. Flexible
- D. Horizontal integration
- E. Vertical integration

56. The quality of tablets is assessed by various factors. What instrument is used for the tablet disintegration test?

- A. Basket apparatus
- B. Flow-through device
- C. Friabilator
- D. Paddle
- E. -

57. A pharmaceutical manufacturer develops a system of product. The focus is laid on the maximum involvement of agent network. What type of marketing is applied?

- A. Intense
- B. Selective
- C. Exclusive
- D. Combined
- E. -

58. While preparing marshmallow root extract, a pharmacist mistakenly used the water of improper temperature for this extract, and the end product came up turbid. What is the required water temperature for the extraction of this herbal material?

- A. Room temperature
- B. 40°C
- C. 100°C
- D. 60°C
- E. 80°C

59. A 67-year-old patient with chronic heart failure takes digoxin. In order to reduce its side effects the patient's doctor recommended to combine it with the following drug:

- A. Panangin
- B. Calcium gluconate
- C. Euphyllinum
- D. Hydrochlorthiazide
- E. Calcium chloride

60. A certain plant is used for production of tinctures and extracts which are the part of complex drugs *Bellataminal*, *Becarbon*, *Besalol*, etc. Specify the grass that is used for this purpose:

- A. Belladonna
- B. Lily of the valley
- C. Astragalus
- D. Beggarticks
- E. Celandine

61. A woman who has been treated for infiltrative focal tuberculosis for a long time complains of acute hearing impairment. Which of the following preparations might be the cause of this side effect?

- A. Streptomycin
- B. Isoniazid
- C. Ethambutol
- D. Rifampicin
- E. Ethionamidum

62. A pharmacist prepared a drug by the prescription:

Rp.: Streptocidi
Dermatoli ana 1,0
Lanolini
Vaselini ana 5,0

M.D.S.: Apply to the affected skin.

Specify the type of the disperse system:

- A. Suspension ointment
- B. Solution ointment
- C. Hydrophilic ointment
- D. Combined ointment
- E. Extraction ointment

63. Which of the following antibiotics can be identified by means of the maltol test?

- A. Streptomycin sulfate
- B. Doxycycline hydrochloride
- C. Amoxicillin
- D. Lincomycin hydrochloride
- E. Kanamycin monosulfate

64. Pharmacies as legal entities must have statutory capital in order to get registered with state authorities. Specify the amount which is identified as the statutory capital:

- A. Amount recorded in the constituent documents
- B. Amount of noncurrent assets
- C. Total sources of funds
- D. Total assets
- E. Outstanding amount

65. A pharmacist prepared 100,0 g of oil emulsion using 5% solution of methyl cellulose as an emulsifier. Specify the required amount of oil and emulsifier for the drug preparation:

- A. 10,0 g, 20,0 g
- B. 20,0 g, 30,0 g
- C. 10,0 g, 10,0 g
- D. 10,0 g, 30,0 g
- E. 20,0 g, 10,0 g

66. A pharmacist prepared the 2% aqueous solution by dissolving the drug substance triturated in a mortar. What substance is this technology typical for?

- A. Potassium permanganate
- B. Calcium gluconate
- C. Osarsolum
- D. Boric acid
- E. Potassium bromide

67. A pharmacist prepares powders with papaverine hydrochloride. What hand scales should be used for weighing out 0,05 g of substance?

- A. BP 1,0
- B. BP 5,0
- C. BP 20,0
- D. BP 10,0
- E. BP 2,0

68. What drug can be recommended for symptomatic treatment of muscle pain in a 5-year-old child?

- A. Paracetamol
- B. Acetylsalicylic acid
- C. Diclofenac sodium
- D. Indomethacin
- E. Celecoxib

69. A pharmacy received a prescription for an oil liniment including streptocidum.

What is the type of disperse system of this preparation?

- A. Suspension
- B. Emulsion
- C. Solution
- D. Alloy
- E. Combined

70. 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. Carboxyl group
- C. Aldehyde group
- D. Alcoholic hydroxyl
- E. Keto group

71. A person got poisoned with alcohols. What alcohol derivatives are used for the analysis by gas-liquid chromatography?

- A. Alkyl nitrites
- B. Alkyl nitrates
- C. Alkyl sulfites
- D. Alkyl sulfates
- E. Alkyl acetates

72. A pharmaceutical analyst identifies the substance of potassium acetate. What reagent confirms the presence of potassium cation in the substance?

- A. Tartaric acid
- B. Sodium hydroxide
- C. Potassium permanganate
- D. Iron (III) chloride
- E. Zinc oxide

73. 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. Violet
- B. Yellow
- C. Blue
- D. Green
- E. Brown

74. Stimulation of beta-cells of the pancreas causes the hypoglycemic effect of the following drug:

- A. Glibenclamide
- B. Prednisolone
- C. Adrenaline hydrochloride
- D. Retabolilum
- E. Heparin

75. A patient with Parkinson's disease has been prescribed a drug with a predominant effect on the dopaminergic system. What drug is it?

- A. Levodopa
- B. Zopiclone
- C. Droperidol
- D. Aminazine
- E. Lorazepam

76. Exacerbation of urolithiasis has caused a renal colic in the patient. What drug must be administered to arrest the colic?

- A. Drotaverine hydrochloride
- B. Siliborum
- C. Almagel
- D. Aethimizolum
- E. Neostigmine methylsulfate

77. A patient with atopic dermatitis presented to the hospital. Which drug with anti-inflammatory and antiallergic effect should be administered to this patient?

- A. Prednisolone
- B. Aethamidum
- C. Oxytocin
- D. Insulin
- E. Retabolilum

78. What solution is used for the detection of iron (II) ions under the SPhU requirements?

- A. Potassium ferricyanide
- B. Ammonia
- C. Lanthanum nitrate
- D. Sodium hydroxide
- E. Silver nitrate

79. The manufacturing pharmaceutical company Elema set up its own corporate pharmacy. In this case, it uses the following distribution channel:

- A. Zero level
- B. First level
- C. Second level
- D. Third level
- E. Fourth level

80. An analytical laboratory has the task to confirm the presence of ethylenediamine in the aminophylline. Which of

the following reagents allows to detect ethylenediamine?

- A. Copper (II) sulfate
- B. Sodium hydroxide
- C. Concentrated sulfuric acid
- D. Silver nitrate
- E. Barium chloride

81. Help the doctor to select a drug from the group of non-steroidal anti-inflammatory drugs, which is an inhibitor of COX-2 and does not damage the stomach:

- A. Celecoxib
- B. Acetylsalicylic acid
- C. Indomethacin
- D. Paracetamol
- E. Diclofenac sodium

82. A patient with acute intoxication has been administered a loop diuretic in order to cause the forced diuresis. What drug is it?

- A. Furosemide
- B. Mannitol
- C. Hydrochlorothiazide
- D. Triamterene
- E. Spironolactone

83. A hypertensive patient has been administered lisinopril. What side effect is typical for this drug?

- A. Dry cough
- B. Constipation
- C. Increased appetite
- D. Insomnia
- E. Vomiting

84. Advise an internship doctor on why iron preparations should not be administered along with antacids:

- A. This causes malabsorption of iron
- B. This causes increased binding to blood proteins
- C. This impairs deposition of iron in the body
- D. This increases intoxication with iron preparations
- E. This accelerates elimination of iron preparations

85. 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?

- A. Red
- B. Blue
- C. Black
- D. Purple
- E. White

86. Senior nurse of the surgical department of the city hospital applied to the interhospital pharmacy. Specify the supporting document for the dispensation of dressing material from this pharmacy:

- A. Requisition
- B. Certificate
- C. Invoice
- D. Tax invoice
- E. Passport

87. Under the SPH of Ukraine, one of the reactions for the detection of calcium cation presence in drugs is the reaction with:

- A. Glyoxal-hydroxyanil
- B. Hydroxyquinoline
- C. Hydroxylamine
- D. Alizarin
- E. Sulfuric acid

88. 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?

- A. Thiochrome
- B. Murexide
- C. Thalleioquin
- D. Ninhydrin
- E. Quinoneimine

89. Treatment of a patient who has developed an attack of bronchial asthma for the first time should be started with:

- A. Inhalation of β_2 -agonists
- B. Inhalation of glucocorticosteroid
- C. Agonists parenterally
- D. *M*-anticholinergic drugs
- E. *H*₂-histamine blockers

90. A patient with acute heart failure and cardiac glycoside intolerance was given an injection of dobutamine. What is the mechanism of its action?

- A. Stimulation of β_1 -adrenoceptors
- B. Stimulation of α_1 -adrenoceptors
- C. Blockade of K^+ -, Na^+ -ATPase
- D. Inhibition of phosphodiesterase
- E. Stimulation of *M*-cholinergic receptors

91. Specify the indicator which measures the total contribution of various solutes to the osmotic pressure of the solution:

- A. Osmolality
- B. Isohydricity
- C. Isotonicity
- D. Isoviscosity
- E. Apyrogenicity

92. When setting up a joint-stock company the founders discussed the issues of financial liability. What is the liability of the board members in a joint-stock company?

- A. Limited to the value of their shares
- B. Limited to the double amount of deposits
- C. Limited to the contributions to the statutory fund and their property
- D. Limited to the amount of deposits
- E. Unlimited and solidary

93. A pharmacy opens a bank account to store funds and conduct ongoing business transactions. What kind of account should be opened?

- A. Current
- B. Provisional
- C. Deposit
- D. Letter of credit
- E. Investment

94. A female patient has a sleep disorder after stress. Which of the following hypnotic drugs should be preferred for the treatment of insomnia?

- A. Nitrozapam
- B. Phenobarbital
- C. Chloral hydrate
- D. Aminazine
- E. Barbital

95. Precipitation reactions are used to establish the identity of drugs. Cation of sodium in sodium citrate can be identified by the formation of a white precipitate with:

- A. Potassium permanganate
- B. Barium chloride
- C. Iron (III) chloride
- D. Silver nitrate
- E. Potassium ferrocyanide

96. A pharmaceutical analyst analyzes

xeroform. Which of the following reagents can he use to identify bismuth in xeroform?

- A. Sodium sulfide
- B. Barium chloride
- C. Ammonium hydroxide
- D. Potassium sodium tartrate
- E. Copper sulphate

97. It is required to perform the extraction of medical poisons isolated from the biological material by the method of V.P. Kramarenko. At the same time, what substance will be extracted from the acidic medium?

- A. Benzonal
- B. Ephedrine
- C. Codeine
- D. Aminazine
- E. Papaverine

98. A forensic medicine laboratory received some biological material. It should be tested for the presence of trichlorfon and dichlorvos. For their isolation a toxicologist infuses them with:

- A. Chloroform
- B. Water alkalized with ammonia solution
- C. Propanol acidified with oxalic acid
- D. Ethanol acidified with oxalic acid
- E. Water acidified with sulfuric acid

99. Pharmacies prepare injectable solutions. Which solution is prepared without any stabilizer?

- A. Sodium bicarbonate solution
- B. Sodium thiosulfate solution
- C. Solution of caffeine sodium benzoate
- D. Glucose solution
- E. Novocaine solution

100. A pharmacy sells medicines. Which of the following medicines is on the list of the controlled substances?

- A. Tramadol
- B. Postinor
- C. Gentamicin sulfate
- D. Streptocid
- E. Hydrocortisone acetate

101. A pharmacist has to prepare an aqueous extract of medicinal plants. What can be used as a substitute of plant material in the drug preparation?

- A. Standardized extract concentrate
- B. Tincture
- C. Liquid extract
- D. Thick extract
- E. Aromatic water

102. A 65-year-old female patient with a fracture of mandible has been prescribed a drug from the group of narcotic analgesics. Specify this drug:

- A. Promedol
- B. Piracetam
- C. Heparin
- D. Cinnarizine
- E. Furosemide

103. A hypertensive patient has been prescribed a drug from the group of non-selective beta-blockers. Specify this drug:

- A. Anapriline
- B. Prazosin
- C. Neostigmine methylsulfate
- D. Adrenaline hydrochloride
- E. Labetalol

104. A patient has a history of cholelithiasis. What drug should be administered to prevent biliary colic?

- A. Magnesium sulfate
- B. Almagel
- C. Contrycal
- D. Bisacodyl
- E. Pancreatin

105. From the pharmaceutical stock select a reversible anticholinesterase drug to be administered to the patients with atony of the intestine and urinary bladder in the postoperative period:

- A. Proserin
- B. Phosphacolum
- C. Benzo hexonium
- D. Atropine sulfate
- E. Dithylinum

106. A patient after acute myocardial infarction has been recommended to take acetylsalicylic acid for 3-4 months. What effect of acetylsalicylic acid would be most relevant for this patient?

- A. Antiplatelet
- B. Antipyretic
- C. Analgesic
- D. Antiinflammatory
- E. Spasmolytic

107. Rose essential oil is used as an anti-inflammatory and antispasmodic agent. It is localized in the following excretory

structures:

- A. Glandular spots
- B. Essential oil glandules
- C. Essential oil conceptacles
- D. Secretory cells
- E. Glandular hairs

108. Production, labour and socio-economic relations between the head of a pharmaceutical company and the workforce are regulated by:

- A. Collective agreement
- B. Labour contract
- C. Corporate code
- D. Contract
- E. Statute

109. A pharmacy makes bulk purchases of health and hygiene products. The agent works under a contract with the manufacturer and operates on his account. The agent may be given the exclusive right to sell goods in certain regions. Specify this agent:

- A. Wholesale agent
- B. Consignee
- C. Commission agent
- D. Broker
- E. Dealer

110. A pharmaceutical company has made a decision to expand its activities. The process of the company's activity expansion by penetration into new fields of the branch is called:

- A. Diversification
- B. Segmentation
- C. Conglomeration
- D. Integration
- E. Centralization

111. A pharmacy prepares ointments with extracts. What is the way to incorporate the dry and thick extracts into the ointments?

- A. To triturate them first with alcohol-water-glycerol [1:6:3] mixture
- B. To incorporate them directly into the molten ointment base
- C. To dissolve them in water first
- D. To disperse them with a liquid which is compatible with the base
- E. To disperse them with ethanol

112. A pharmacy received a prescription:

*Rp.: Dibazoli 0,05
Papaverini hydrochloridi 0,15
Sacchari 2,5
M. fiat pulv.
Divide in partes aequales №10.*

Specify the weight of a single powder dose:

- A. 0,27
- B. 2,7
- C. 0,25
- D. 0,26
- E. 0,30

113. 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?

- A. Iodine solution
- B. Iron (III) chloride solution
- C. Ammonia solution
- D. Potassium iodide solution
- E. Potassium nitrate solution

114. Select a drug for the treatment of bronchial asthma from the group of β_2 -agonists:

- A. Salbutamol
- B. Aminophylline
- C. Atrovent
- D. Ketotifen
- E. Beclomethasone

115. Ampules are produced of glass with appropriate heat resistance. An ampule would meet the requirements of technical standards if the ampule glass has the following characteristic:

- A. Thermal shock resistance
- B. Easy cutting of capillaries
- C. Quality ampule sealing
- D. Withstanding the stresses during production and transportation
- E. Protection of light-sensitive materials

116. Ampule quality control involves testing for chemical resistance. What methods are used to test this indicator?

- A.** Various acid-base indicators, pH meter, gravimetric methods
- B.** Visual, gravimetric methods
- C.** Photoelastic method
- D.** Autoclaving followed by titration with a solution of hydrochloric acid
- E.** Exposing the glass samples to the action of sodium carbonate and sodium hydrocarbonate solutions

117. A pharmacist prepared the massage cream of the following composition:

Beeswax 12,0
Almond oil 68,5
Spermaceti 12,0
Anhydrous lanolin 7,5
Essential oil of lavender 3 drops.

Specify the cream type:

- A.** Oily
- B.** Non-oily
- C.** Emulsion
- D.** Suspension
- E.** Combined

118. What is the function of anhydrous lanolin in the suppository mass used for suppositories prepared by hand rolling?

- A.** Plasticizer
- B.** Solvent
- C.** Preservative
- D.** Solubilizer
- E.** Emollient

119. Plantain leaves are used for production of *Plantaglugidum* which has antiulcerogenic action. The plant material analysis involves quantitative determination of the following class of compounds:

- A.** Polysaccharides
- B.** Vitamins
- C.** Alkaloids
- D.** Terpenes
- E.** Carotenoids

120. What herbal drug produced from alkaloid-containing raw materials can be recommended for neurasthenia, insomnia, menopausal disorders?

- A.** Novopassit
- B.** Ergotamine
- C.** Glaucine hydrochloride
- D.** Securinine nitrate
- E.** Vinblastine

121. A pharmacist has prepared a suspension with a hydrophobic substance. What stabilizer is required for its

preparation?

- A.** 5% solution of methyl cellulose
- B.** Sodium thiosulfate
- C.** Glucose
- D.** Sodium chloride
- E.** Polyethylene oxide

122. A patient has been found to have pesticide intoxication. Biochemical (cholinesterase) test was positive. What pesticide is likely to have caused the intoxication?

- A.** Dichlorvos
- B.** DDT
- C.** Hexachlorocyclohexane
- D.** Heptachlor
- E.** Ethyl mercury chloride

123. Which of the following sublingual drugs quickly relieves an attack of stenocardia?

- A.** Nitroglycerine
- B.** Digoxin
- C.** Amiodarone
- D.** Lisinopril
- E.** Corglycon

124. Diazepam is used for the treatment of neuroses due to the following pharmacological effect:

- A.** Anxiolytic
- B.** Analgesic
- C.** Diuretic
- D.** Antipyretic
- E.** Antidepressant

125. A patient has been administered a spasmolytic from the group of muscarinic receptor antagonists as a part of the complex treatment for renal colic. Specify this drug:

- A.** Atropine
- B.** Neostigmine
- C.** Galantamine
- D.** Dithylinum
- E.** Benzohexonium

126. One of the recent industrial medical forms that is used in pediatric practice and intended for young children unable of swallowing tablets is:

- A.** Tubatines
- B.** Dragee
- C.** Spansules
- D.** Gelatin microcapsules
- E.** Granules

127. What final document is used for

the preparation of the report on the discrepancies revealed in course of the inventory at the pharmacy?

- A. Act on the inventory results
- B. Inventory item description
- C. Checklist
- D. Commercial report
- E. Invoice

128. Pharmaceutical market of Ukraine comprises pharmacies of various forms of ownership. Specify the form of ownership for a community pharmacy:

- A. Territorial community
- B. Workforce of an enterprise
- C. Private person
- D. Group of shareholders
- E. -

129. A patient with a history of allergic rhinitis has been prescribed ephedrine in form of nasal drops. The patient has significantly benefited from nasal instillation, and this stimulated him to use the drug every two hours. But under these conditions the drug appeared to be ineffective. What is the most likely cause of this phenomenon?

- A. Tachyphylaxis
- B. Drug dependence
- C. Idiosyncrasy
- D. Allergy
- E. Cumulation

130. A pharmaceutical plant producing aerosol forms uses liquefied gases as propellents. Which of the following substances relates to the group of liquefied gases?

- A. Freons
- B. Nitrogen
- C. Nitrous oxide
- D. Methylene chloride
- E. Ethylene chloride

131. A pharmacist has to prepare a drug by the prescription:

*Rp.: Natrii hydrocarbonatis 2,0
Natrii benzoatis 1,5
Liquoris Ammonii anisatis 4 ml
Aquaе Mentae 100 ml
M.D.S. 1 tablespoon 3 times a day.*

Specify the component that is added in the first place:

- A. Mint water
- B. Sugar syrup
- C. Liquoris Ammonii anisatis
- D. Sodium hydrogen carbonate
- E. Sodium benzoate

132. A person got poisoned with an unknown substance. Chemico-toxicological test for the isolated toxin with Dragendorff's, Sonnenschein's, Scheibler's reagents caused setting of sediments. The specific study should be focused on the following group of toxic substances:

- A. Alkaloids and nitrogen-containing compounds
- B. Metal toxins
- C. Hydrocyanic acid
- D. Methyl alcohol
- E. Ammonia and its salts

133. A laboratory for drug quality control checks the quality of the drug substance nitrofuril (furacilin). The chemical denomination of this drug is:

- A. 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

134. A 25-year-old patient with frequent migraine attacks has been prescribed sumatriptan. Specify the mechanism of its action:

- A. Selective agonist of $5 - HT_1$ -serotonin receptors
- B. Selective antagonist of $5 - HT_1$ -serotonin receptors
- C. Nonselective α -blocker
- D. Stimulator of β -adrenergic receptors
- E. Selective α -blocker

135. A 43-year-old patient with a severe form of rheumatoid arthritis has been administered a certain drug for background therapy. Specify this drug:

- A. Methotrexate
- B. Diclofenac sodium
- C. Nimesulide
- D. Prednisolone
- E. Methylprednisolone

136. In order to analyze marketing opportunities and make a forecast of the market position a pharmaceutical

company can use a matrix allowing the company to find new markets (geographical) or identify new areas of using traditional medicines. What matrix is used by a pharmaceutical company to identify its market position?

- A. Ansoff matrix
- B. Boston Consulting Group matrix
- C. Porter's matrix
- D. Matrix of competitive advantages
- E. Competitive force models

137. A female 49-year-old patient complains of compressing headache in the occipital region, dizziness, increased AP. The patient has a history of diabetes mellitus type II. What diuretic **DOES NOT** affect the blood glucose level?

- A. Indapamide
- B. Furosemide
- C. Hypothiazide
- D. Ethacrynic acid
- E. Urea

138. A 65-year-old patient complains of nausea, vomiting, lethargy, seeing yellow spots in front of his eyes. The patient daily takes 0,25 mg of digoxin, 100 mg of aspecardum, 50 mg of metoprolol. What pathological condition is this syndrome typical for?

- A. Glycoside intoxication
- B. Food poisoning
- C. Withdrawal syndrome
- D. Tachyphylaxis
- E. Hypersensitivity reaction

139. Pharmaceutical plants produce ointments on various bases. Specify the ointment base having the most pronounced osmotic properties:

- A. Polyethylene oxide
- B. Silicon
- C. Vaseline, lanolin
- D. Methyl cellulose
- E. Hydrogenated fat

140. Ampule workshop of a pharmaceutical factory produces the procaine hydrochloride solution. This solution is stabilized by adding:

- A. 0,1 mol/l of hydrochloric acid solution
- B. 0,1 mol/l of sodium hydroxide solution
- C. 0,1 mol/l of sodium hydrogen carbonate solution
- D. 20,0 of sodium hydrogen carbonate
- E. 1,5 g of amino-propylene glycol

141. Some alkaline solution was added to the alcohol solution of ftivazide, 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 ftivazide are proved by this reaction?

- A. Amphoteric
- B. Oxidative
- C. Acid
- D. Base
- E. Reducing

142. 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:

- A. Potassium iodobismuthate
- B. Ammonia
- C. Ninhydrin
- D. Acetic-hydrochloric dinitrophenylhydrazine
- E. Tetrabutylammonium hydroxide

143. Specific impurity of thiosulfates in *Natrii iodidum* and *Kalii iodidum* is identified by adding starch and iodine solutions. The absence of impurities is proved by:

- A. Blue colour
- B. Yellow colour
- C. Disappearance of the blue colour
- D. White precipitate
- E. Discolouration of the solution

144. Bronchodilatory effect of short-acting β_2 -adrenoceptor agonist salbutamol develops after:

- A. 5-10 minutes
- B. 20-30 minutes
- C. 45-60 minutes
- D. 2-3 hours
- E. 4-6 hours

145. A 12 weeks pregnant patient has been hospitalized with symptoms of acute cystitis. What antibiotic can be recommend in this case?

- A. Amoxicillin
- B. Ciprofloxacin
- C. Gentamicin
- D. Metronidazole
- E. Tetracycline

146. Issuing prescriptions and orders for

drugs and medical products is regulated by the Order № 360 dated 19.07.2005 (as amended). Specify the prescription form for phenobarbital as a part of a combined dosage form:

- A. F-1
- B. F-2
- C. No prescription
- D. F-3 in duplicate
- E. Prescription forms F-1 and F-3 in duplicate

147. Vacation leaves for employees of pharmacies include paid annual, additional, sabbatical, social leaves, as well as unpaid leaves. What is the total duration of the paid basic and additional vacation leave?

- A. 59 calendar days
- B. 60 calendar days
- C. 90 calendar days
- D. 70 calendar days
- E. 65 calendar days

148. Representatives of the family *Solanaceae* are widely used in medical practice as alkaloid-containing plants. Which representative is the source for production of semi-synthetic steroid hormones?

- A. *Solanum laciniatum*
- B. *Atropa belladonna*
- C. *Datura Stramonium*
- D. *Hyoscyamus niger*
- E. *Solanum tuberosum*

149. After harvesting the calamus rhizomes the received material should be dried. What temperature range is required for obtaining good-quality raw material?

- A. 35-40°C
- B. 40-60°C
- C. 60-70°C
- D. 70-80°C
- E. 80-90°C

150. A pharmacist has to prepare 10% alcohol solution of iodine. What is the required concentration of ethanol for this purpose?

- A. 95%
- B. 96%
- C. 40%
- D. 70%
- E. 60%

151. Field horsetail grass is recommended as a diuretic. What herbal material can be

used as a substitute?

- A. Herba Aervae lanatae
- B. Herba Leonuri
- C. Herba Menthae piperitae
- D. Herba Convallariae
- E. Herba Adonidis

152. A pharmacist prepares an infusion at a ratio of 1:30. What plant material would be used?

- A. Lily of the valley grass
- B. Marshmallow root
- C. Sage leaves
- D. Oak bark
- E. Shoots of Marsh Labrador tea

153. Under the SPhU (appendix 2), leaves of ginkgo are standardized by the content of:

- A. Flavonoids
- B. Saponins
- C. Alkaloids
- D. Coumarins
- E. Chromones

154. The pharmaceutical market is characterized by the seasonal fluctuations in demand for anti-cold medicines. What kind of marketing is used in case of such demand?

- A. Synchronmarketing
- B. Remarketing
- C. Developing marketing
- D. Conversive
- E. Counteractive

155. Economic analysis of pharmacy activity involves a number of absolute indices. What index is determined by the formula: "income from sales - prime cost of goods":

- A. Gross profit
- B. Amount of costs
- C. Level of costs
- D. Total balance
- E. Net profit

156. Salicylic acid and its derivatives may be the cause of acute intoxication. When salicylates are analyzed by TLC method, the chromatographic plate is sprayed with:

- A. Solution of iron (III) chloride
- B. Dragendorff's reagent
- C. Forrest reagent
- D. Solution of mercury (II) sulfate and chloroform solution
- E. Marquis reagent

157. The simple sugar syrup consists of:

- A. 64 parts of sugar and 36 parts of water
- B. 73 parts of sugar, 22 parts of water, 5 parts of 90% alcohol
- C. 50 parts of sugar and 50 parts of water
- D. 65 parts of sugar, 33 parts of water, 2 parts of 90% alcohol
- E. 45 parts of sugar and 55 parts of water

158. Prescriptions for the controlled drugs dispensed under the reimbursement program (except for the narcotic and psychotropic preparations in substance) are issued on the following prescription form:

- A. №1 in duplicate
- B. №1, single copy
- C. №1 and №3
- D. №3 in duplicate
- E. №3, single copy

159. Quarterly evaluation of business and financial performance of a pharmacy involves calculating its profitability. For this purpose the following data is used: turnover - 100 thousands UAH, gross profit - 25 thousands UAH, expenditures - 1 thousand UAH. Calculate the profitability of the pharmacy:

- A. 15%
- B. 20%
- C. 10%
- D. 22%
- E. 25%

160. A patient suffering from epilepsy has taken phenobarbital for a long time and developed drug tolerance. What is the mechanism of this phenomenon development?

- A. Acceleration of biotransformation
- B. Absorption process reduction
- C. Receptor's sensitivity enhancement
- D. Inhibition of biotransformation
- E. Accumulation of substances in the body

161. Who is responsible for the acceptance of goods and medical products with accompanying incoming quality control?

- A. Authorized representative
- B. Supplier pharmacist
- C. Pharmacist
- D. Head of pharmacy
- E. Analyst

162. During steam distillation of volatile poisons the first portion of the distillate is collected in a receiver with 2% solution of sodium hydroxide. It is used to detect:

- A. Cyanides
- B. Ethanol
- C. Formaldehyde
- D. Phenol
- E. Acetates

163. Alkaloid glaucine has an antitussive effect that is stronger and longer if compared to that of codeine, and exhibits no narcotic side effects. What drug plant contains glaucine?

- A. Yellow hornpoppy
- B. Celandine
- C. *Thermopsis lanceolata*
- D. *Datura*
- E. Henbane bell (*Scopolia carniolica*)

164. A pharmacy has no quinquelobate motherwort in stock. It can be substituted by the following herbal material:

- A. Rhizomes and roots of valerian
- B. Linden flowers
- C. Beggarticks grass
- D. Raspberry fruits
- E. *Hypericum* grass

165. Drug plant *Dioscorea nipponica* is the source for production of Polysponium drug which is used in the complex treatment of atherosclerosis. Specify the active compounds of dioscorea material:

- A. Steroidal saponins
- B. Alkaloids
- C. Essential oil
- D. Cardiac glycosides
- E. Triterpene saponins

166. A drug raw material from the family *Polygonaceae* had been sent to a laboratory for analysis. On macroscopic examination the material was identified as a herbaceous plant with lanceolate leaves with a red spot, and filmy ocreae covered with appressed hairs. The plant had the apical inflorescence in dense spicate panicles. What plant is it?

- A. Redshank (*persicaria*)
- B. Common knotweed
- C. Biting knotweed
- D. Snakeweed
- E. Common buckwheat

167. A 35-year-old patient with tachycardia has been administered propranolol. Which of the following reactions may be caused by the use of beta-blockers?

- A. Bronchospasm
- B. Drug dependence
- C. Cumulation
- D. Blood pressure rise
- E. Constipations

168. 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 result of this reaction:

- A. Yellow
- B. Red
- C. Blue
- D. Yellow-green
- E. White

169. A 17-year-old patient complains of persistent thirst, dry mouth, frequent urination, increased appetite. Blood glucose is at the rate of 11 mmol/l. The patient has been diagnosed with diabetes mellitus type I. What drug is indicated for treatment?

- A. Insulin
- B. Maninil
- C. Glibenclamide
- D. Acarbose
- E. Asparcamum

170. A pharmacy serves the polyclinics of a city district. Specify the bill of materials that shows the number of drugs dispensed on prescriptions of the doctors who work in the polyclinics:

- A. Outpatient
- B. Inpatient
- C. Polyclinic
- D. Medical
- E. -

171. At the end of the reporting period a pharmacy makes an analysis of its commercial and financial activities. What economic index describing the commercial and financial performance is defined as the ratio of the pharmacy profit to the turnover?

- A. Profitability
- B. Distribution costs
- C. Wholesale turnover
- D. Retail turnover
- E. Bill of material

172. Phytochemical workshop of a factory manufactures pancreatin. What is the source material for obtaining pancreatin?

- A. Pancreas of pigs or cattle
- B. Gastric mucosa of pigs
- C. Lungs of cattle
- D. Heart of cattle
- E. Egg white

173. Which of the following diuretics **SHOULD NOT** be administered to patients with impaired hearing?

- A. Furosemide
- B. Spironolactone
- C. Clopamide
- D. Indapamide
- E. Chlorthalidone

174. A patient who has been taking acetylsalicylic acid developed hemorrhages of mucous membranes. This phenomenon is associated with:

- A. Inhibition of the prothrombin synthesis
- B. Increased absorption in the gastrointestinal tract
- C. Decreased absorption in the gastrointestinal tract
- D. Disorder of protein binding
- E. Changed volume of distribution

175. Simultaneous use of paracetamol and acetylcysteine causes:

- A. Reduction of paracetamol hepatotoxicity
- B. Reduction of anti-inflammatory action of paracetamol
- C. Inhibition of paracetamol absorption
- D. Increase of mucolytic action of acetylcysteine
- E. Increase of paracetamol nephrotoxicity

176. Simultaneous use of gentamicin and acyclovir tablets increases the risk of:

- A. Nephrotoxicity
- B. Hepatotoxicity
- C. Cardiotoxicity
- D. Neurotoxicity
- E. Likelihood of allergic reactions

177. Simultaneous use of doxycycline hydrochloride and oral contraceptive causes:

- A. Reduction of oral contraceptives effectiveness
- B. Increase of oral contraceptives effectiveness
- C. Increase of the antibacterial effect of doxycycline
- D. Reduction of the antibacterial effect of doxycycline
- E. -

178. In case of simultaneous use of metronidazole and oral anticoagulants derived from coumarin patients must be warned about:

- A.** Potentiation of anticoagulants effect and the risk of bleeding
- B.** Reduction of anticoagulants effect
- C.** Potentiation of metronidazole effect
- D.** Reduction of metronidazole effect
- E.** Higher neurotoxicity

179. Business transactions of pharmacies are reported in the accounts. Specify the account that reports the settlements with debtors and creditors:

- A.** Nominal
- B.** Positive
- C.** Negative
- D.** Business
- E.** Trial balance

180. Apart from goods sales, there are other business transactions that can be characterized as goods disposal. Which of the following business transactions reduces the stock at pharmacies?

- A.** Disposal of products for economic needs
- B.** Reclassifying other supplies as goods
- C.** Bringing the oversupply on charge
- D.** Revaluation for the packing and laboratory work
- E.** Bringing the glassware on charge

181. 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:

- A.** Calcium chloride
- B.** Sodium chloride
- C.** Sodium hydrocarbonate
- D.** Sodium sulfate
- E.** Sodium thiosulfate

182. Phenobarbital drug has a sedative, hypnotic and anti-epileptic effect. What is its international nonproprietary name?

- A.** Luminal
- B.** Nitrofurazone
- C.** Chloramphenicol
- D.** Diazepam
- E.** Salol

183. A 70-year-old patient with stenocardia claims that the pharmacy sold him a drug that relieved an attack of

stenocardia but instead caused an acute bursting headache. What antihypertensive drug is this side effect typical for?

- A.** Nitrosorbid
- B.** Amlodipine
- C.** Nifedipine
- D.** Trimetazidine
- E.** Metoprolol

184. During the working day a pharmacist prepared five dosage forms. Which of them requires a complete chemical control?

- A.** Eye drops 10 ml of 2% ethylmorphine hydrochloride solution
- B.** 5% aethonium solution
- C.** Mixtura Pavlovi
- D.** Antipruritic ointment
- E.** Ear drops with levomycitin

185. Commercial and financial activity of a pharmacy involves using returnable tare. Which of the following containers are returned to the supplier?

- A.** Metal cylinders
- B.** Packaging materials
- C.** Paper boxes
- D.** Glass-stoppered bottles
- E.** Glassware

186. A pharmacy plans to expand the production of medicines. For this purpose it purchased the production equipment at a cost of 7000 UAH. The cost of the equipment will be recorded to the balance of the pharmacy as:

- A.** Initial cost
- B.** Fair value
- C.** Amortization cost
- D.** Residual
- E.** Revalued amount

187. An accountant of a pharmacy issued a cash receipt voucher for the sales proceeds. What document is used to register cash receipt and cash payment vouchers before the cash arrives to the cashiers?

- A.** Register of receipt and payment cash documents
- B.** Cash book
- C.** Ledger of cash dispensed and received by the senior teller
- D.** Cash report
- E.** Pay list

188. Biochemical blood test revealed low level of serum iron. What disease are

these changes typical for?

- A. Iron-deficiency anemia
- B. Acute bronchitis
- C. Bronchial asthma
- D. Pneumonia
- E. Bronchiectasis

189. A patient who has been treated for hypertension complains of cough. Objective examination reveals no changes in the lungs. Which of the following drugs might have caused cough?

- A. Captopril
- B. Amlodipine
- C. Hypothiazide
- D. Nebivolol
- E. Clonidine

190. What non-narcotic antitussive drug of central action can be used for dry cough?

- A. Glaucine
- B. Codeine
- C. Acetylcysteine
- D. Ambroxol
- E. Mucaltin

191. Galenic preparations are produced by using various extractants. What extractants require pressure as a prior condition for the extraction process?

- A. Liquefied gases
- B. Ethanol
- C. Methyl alcohol, acetone
- D. Vegetable oils
- E. Dichloroethane, chloroform

192. Menthol has anesthetic and antiseptic effect. What plant is the source of menthol?

- A. *Folia Menthae piperitae*
- B. *Folia Uvae ursi*
- C. *Folia Eucalypti*
- D. *Folia Salviae*
- E. *Folia Absinthii*

193. Hydrocyanic acid and its salts are extremely toxic substances. In humans, they are partly neutralized by enzymatic conversion into:

- A. Thiocyanate
- B. Carbon (IV) oxide
- C. Nitrogen (II) oxide
- D. Ethanol
- E. Acetic acid

194. Methyl alcohol which is widely used in industry causes severe health disorders when enters the human body even in small

amounts. This effect is induced by the action of the following major metabolites of methanol:

- A. Formaldehyde and formate acid
- B. Ethanol and acetaldehyde
- C. Methyl acetate and ethyl acetate
- D. Ethyl alcohol and ethyl acetate
- E. Acetic acid and acetaldehyde

195. 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:

- A. Chlorpromazine hydrochloride
- B. Promethazine hydrochloride
- C. Trifluoperazine hydrochloride
- D. Clonidine hydrochloride
- E. Diphenhydramine hydrochloride

196. The thyme grass is used for the production of herbal medical products for the treatment of respiratory tract infections. Under the SPhU, the herbal raw material is subject to chromatographic identification by means of thin layer chromatography. What substances are detected on the chromatographic plate after its treatment with due reagent?

- A. Thymol and carvacrol
- B. Atropine and hyoscyamine
- C. Quercetin and rutin
- D. Apigenin and luteolin
- E. Arbutin and methyl arbutin

197. Flower buds of clove contain the essential oil used for production of herbal antiseptics. Under the State Pharmacopoeia of Ukraine, the raw materials are identified by the method of thin layer chromatography. What zones can be identified on the chromatographic plate after their treatment with reagent?

- A. Eugenol and caryophyllene
- B. Quercetin and rutin
- C. Hyoscyamine and scopolamine
- D. Apigenin and luteolin
- E. Scopoletin and umbeliferon

198. Specify the base for the preparation of antibiotic ointments:

- A. 6 parts of vaseline + 4 part of lanolin
- B. 8 parts of vaseline + 2 part of lanolin
- C. 5 parts of vaseline + 5 part of lanolin
- D. 7 parts of vaseline + 3 part of lanolin
- E. 5 parts of vaseline + 1 part of lanolin

199. Business transactions of a pharmacy

are recorded in the control accounts as listed in the chart of accounts. The balance on the ledger and sub-ledger accounts is used to fill out the following document:

- A.** Assets
- B.** Profit and loss account
- C.** Liabilities
- D.** First section of the liabilities side
- E.** Fourth section of the liabilities side

200. A 40-year-old patient has a history

of bronchial asthma and heart rhythm disorders in form of bradyarrhythmias. Bronchospasm can be eliminated by the drugs of the following pharmacological group:

- A.** *M*-cholinergic antagonists
- B.** β -blockers
- C.** *M*-cholinomimetics
- D.** Cholinesterase inhibitors
- E.** Muscle relaxants