

1. For isolation of alkaloids from biological material by Kramarenko's method extract is cleaned. For what operation ammonium sulphate is added to extract?

- A. Salting-out
- B. Infusion
- C. Centrifugation
- D. Ether extraction
- E. Chloroform extraction

2. According to the supply contract with joint-stock company "Darnitsa", a pharmacy warehouse accepted some inventory items. Which department of the warehouse is directly responsible for the goods acceptance?

- A. Reception division
- B. Expedition division
- C. Configuration division
- D. Stores division
- E. Operations division

3. 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. 1,3110
- C. 1,3220
- D. 1,3440
- E. 1,3550

4. In order to fill a burette a pharmacist prepared 2 l of 10% benzoate solution. This operation should be recorded in the following register:

- A. Laboratory
- B. Packaging
- C. Commodity report
- D. Prescription
- E. Spot (cash)

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. Which of the below-listed drugs is used for thrombolytic therapy in case of myocardial infarction?

- A. Streptokinase
- B. Heparinum
- C. Phenylinum
- D. Ticlopidine
- E. Acetylsalicylic acid

7. On the 4th day of treatment with indometacin a 55-year-old patient developed gastrorrhagia as a result of gastric mucosa ulcer. Ulcerogenic effect of this drug is explained by the lowered activity of the following enzyme:

- A. Cyclooxygenase-1 (COX -1)
- B. Cyclooxygenase-2 (COX -2)
- C. Lipoxygenase (LOG)
- D. Thromboxanetin sintetaza
- E. Prostacyclin sintetaza

8. A patient suffering from peptic ulcer was administered ranitidine. Gastric juice acidity has reduced considerably. What mechanism underlies the action of this drug?

- A. N_2 -histamine receptors blockade
- B. N_1 -histamine receptors blockade
- C. M -cholinergic receptors blockade
- D. H,K-ATPase activity inhibition
- E. Autonomic ganglion H -cholinergic receptors blockade

9. A gravida in her 20th week of gestation fell ill with pneumonia. What chemotherapeutical drug may be administered with no risk for the fetus development?

- A. Benzylpenicillinum
- B. Gentamycin
- C. Sulfalenum
- D. Laevomycesinum
- E. Ofloxacinum

10. During a surgical operation the muscle relaxant tubocurarine chloride was used. What antagonist drug should be injected in order to allow the patient to breathe independently?

- A. Proserinum
- B. Dithylinum
- C. Cytitonum
- D. Aethimizolum
- E. Benzohexonium

11. A child has accidentally drunk a solution that was used by his grandmother for glaucoma treatment. The solution turned out to be pilocarpine hydrochloride. What drug can be used as an antidote?

- A. Atropinum
- B. Carbacholinum
- C. Aceclidinum
- D. Benzohexonium
- E. Pentaminum

12. A patient with heart failure induced by a long-term coronary vessel disorder can be administered a drug produced out of the following herbal raw material:

- A. Hawthorn
- B. Calendula flowers
- C. Ginseng roots
- D. Aralia roots
- E. Berberis roots

13. A patient came to a drugstore and ordered cowberry leaves. Which of the available herbal raw materials can be offered as a substitute?

- A. *Folium Uvae ursi*
- B. *Rizoma Calami*
- C. *Rizoma et radix Sanquisorbae officinalis*
- D. *Herba Achilleae millefolii*
- E. *Radix Taraxaci officinalis*

14. 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. Acrolein
- B. Diethyl ethe
- C. Acetic acid
- D. Ethanol
- E. Chloroform

15. A pharmacy analyst analyzes distilled water. For this purpose he brings some amount of the sample material to the boiling point, adds 0,02 M solution of potassium permanganate and diluted sulfuric acid. After 5 minutes of boiling the pink colour of the produced solution should not change. The pharmacy analyst tries to detect the following admixture:

- A. Chemical reducing agent
- B. Carbon dioxide
- C. Nitrates
- D. Sulfates
- E. Heavy metals

16. A tablet production unit produces press-coated tablets. What equipment is used for this purpose?

- A. Double pressing tableting machine
- B. Dragee pan
- C. Marmerizer
- D. Eccentric tableting machine
- E. Triturating machine

17. A pharmaceutical enterprise produces a dense extract with 0,25% ammonia solution used as an extractant. This dense extract is:

- A. Licorice
- B. Sagebrush (*Artemisia*)
- C. Valerian
- D. Male fern
- E. Motherwort (*Leonurus*)

18. A pharmacy supplies the population with drugs for cash. Specify the VAT on drugs:

- A. 0%
- B. 10%
- C. 15%
- D. 20%
- E. 30%

19. A pharmaceutical enterprise that has achieved high sales rates and customers' recognition will reach the highest profit at the following stage of the product life cycle:

- A. Maturity
- B. Market penetration
- C. Growth
- D. Decrease
- E. Development

20. Aerosol production involves application of different groups of propellents. What propellents relate to the group of compressed gases?

- A. Nitrogen, nitrous oxide, carbon dioxide
- B. Freon
- C. Propane, butane, isobutane
- D. Vinyl chloride, methyl chloride
- E. Methylene chloride, ethylene chloride

21. Which preparation is the specific antidote in case of intoxication with iron preparations?

- A. Deferoxamium
- B. Protamine sulfate
- C. Bemegridum
- D. Atropinum
- E. Penicillamine

22. A pharmacist revealed incompatibility in the formulation.

Rp.: Sol. Collargoli 1% - 10 ml

Sol. Adrenalini hydrochloridi 0,1% - 1 ml

M.D.S. Nasal drops.

What chemical process underlies this incompatibility?

- A. Oxidization
- B. Neutralization
- C. Precipitation
- D. Hydrolysis
- E. Absorption

23. A pharmacist prepared solution of ethacrydine lactate. What is the peculiarity of this substance dissolving?

- A. Dissolving in hot water
- B. Dissolving in freshly distilled water
- C. Dissolving in cold water
- D. Grinding in a mortar with water
- E. Dissolving in potassium iodide solution

24. A pharmacy produces compounded drugs. What kinds of internal control of drugs production are required?

- A. Written, organoleptic, sell control
- B. Written, interrogatory, sell control
- C. Written, qualitative and quantitative analysis
- D. Written, physics and chemical
- E. Written and sell control

25. A pharmacist is preparing fat-based suppositories by method of pouring. What base is to be used for this purpose?

- A. Butirol
- B. Vaseline (petrolatum)
- C. Cocoa butter
- D. Wax
- E. Spermaceti

26. Preparations on the basis of dandelion roots are recommended for better digestion and as a choleric because this herbal raw material contains:

- A. Bitters
- B. Essential oil
- C. Balsams
- D. Saponins
- E. Flavonoids

27. Coltsfoot preparations are used for upper airways treatment. During procurement of this herbal raw material the following admixture may appear:

- A. Great bur (*Arctium lappa*)
- B. Common plantain (*Plantago major*)
- C. Spring adonis (*Adonis vernalis*)
- D. Marsh mallow (*Althaea officinalis*)
- E. Pot marjoram (*Origanum vulgare*)

28. A pharmacist-technologist received an ointment formulation.

Rp.: Unguentum Resorcini 1,5% - 10,0

Da. Signa. To be applied on the affected skin areas.

The pharmacist incorporated dry medical substance into the ointment by the following way:

- A. Triturated with a few vaseline oil drops
- B. Triturated with a few ethanol drops
- C. Triturated with a few water drops
- D. Added to molten vaseline
- E. Triturated with a part of vaseline

29. A pharmacy got an order for eye drops containing 1% solution of pilocarpine hydrochloride. What substance was used in order to ensure isotonicity?

- A. Sodium chloride
- B. Boric acid
- C. Glucose
- D. Sodium nitrate
- E. Sodium sulfate

30. A pregnant woman fell ill with severe pneumonia. What antibacterial drug may be prescribed?

- A. Cefotaxime
- B. Gentamycin sulphate
- C. Tetracycline hydrochloride
- D. Ofloxacinum
- E. Co-trimoxazolom

31. One of the major indicator of drug elimination from the human body is:

- A. Effective halfbeak
- B. Volume of distribution
- C. Bioavailability
- D. Bioequivalence
- E. Highest concentration in blood

32. It is necessary to make rapid analysis of opiates in urine. Which of the following methods is the most sensitive?

- A. Immunoenzyme
- B. Chromatographic
- C. Photometric
- D. Spectrochemical in the UV region
- E. Extraction photometric

33. TLC-screening is used for omnidirectional investigation of "acid"chloroform extract. For detection of barbiturates following developers are used:

- A. Diphenylcarbazine and mercury sulfate
- B. Diphenylamine
- C. Sodium diethyldithiocarbamate
- D. Ditzone
- E. Isopropylamine

34. A pharmacy manager is working out a schedule for a pharmacist who is responsible for prescription reception and drug serving out. What is the weekly working time for one employee?

- A. 36 hours
- B. 38 hours
- C. 40 hours
- D. 30 hours
- E. Irregular working week

35. An advance holder (accountant) was given some money from the cash fund of an enterprise for purchase of office accessories. After the cash advance the advance holder must submit the complete application of funds statement no later than:

- A. Third banking day
- B. Five working days
- C. Ten working days
- D. One week
- E. Such term isn't established

36. Ukraine has a valid list of drugs whose price is subject to the governmental regulation. What is the way of retail price formation for Corvalol 25,0 (produced by "Pharmac") providing that this drug is included in the above-mentioned list?

- A. Setting a 35% markup on the manufacturer's price
- B. Setting a 35% markup on the customs price
- C. Setting a 35% markup on the mediator's price
- D. Setting a 40% mark up on the wholesale price
- E. Setting common consumer price

37. For granule drying different types of dryers are used. The dryer SP-30 relates to the following type:

- A. With fluidized bed
- B. Sublimation
- C. Infrared
- D. With silica gel column
- E. With a forced air circulation

38. When fenoterolom for inhalations is not available in a pharmacy, it can be substituted by the following drug from

the group of bronchoselective beta-2-adrenomimetics:

- A. Salbutamolom
- B. Isadrinum
- C. Metacinum
- D. Ephedrinum
- E. Euphyllinum

39. A pharmacist prepared some powders whose composition includes camphor. What capsules are required for their packaging?

- A. Parchment
- B. Paper
- C. Waxed
- D. Paraffin
- E. Cellophane

40. Mother of a 2-month-old child came to a pharmacy and asked for a febrifuge. What drug should be recommended for the child?

- A. Paracetamolom
- B. Nimesulide
- C. Acetylsalicylic acid
- D. Indometacinum
- E. Diclofenac sodium

41. A patient consulted an ophthalmologist about scotopic vision impairment, cornea dryness. What drug was prescribed?

- A. Retinolum
- B. Pyridoxine
- C. Tocopherol
- D. Ascorbic acid
- E. Cocarboxylasum

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

- A. Aldehyde
- B. Ketonic
- C. Carboxyl
- D. Etherific
- E. Amide

43. For the purpose of sales stimulation a pharmaceutical wholesale company grants its customers a discount according to the social contract and on condition of their loyalty. Specify the type of discount:

- A. Bonus
- B. Dealer
- C. Seasonal
- D. Discounts for quantity of purchased goods
- E. -

44. A 6-year-old child with pneumonia was prescribed an antibiotic. After the treatment the child became deaf. Which antibiotic group might have caused this complication?

- A. Aminoglycosides
- B. Cephalosporins
- C. Macrolides
- D. Natural penicillin
- E. Semisynthetic penicillin

45. A patient suffering from hypertension consulted a doctor about dry cough that was presumably provoked by antihypertensive therapy. What antihypertensive drug had she been taking?

- A. Lisinopril
- B. Atenolol
- C. Nifedipine
- D. Furosemidum
- E. Hydrochlorthiazide

46. 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. Pink
- B. Green
- C. Yellow
- D. Blue
- E. Black

47. Development of advertising strategy for promotion of nonprescription drugs includes identification of the target audience. The highest selectivity of consumer audience can be achieved by means of the following advertisement type:

- A. At sales outlet
- B. On the radio
- C. On transport
- D. In the printed publication
- E. On TV

48. Choose an optimal antibacterial drug for the mycoplasmal pneumonia treatment:

- A. Rovamycine
- B. Gentamycinum
- C. Penicillin
- D. Ampicillin
- E. Amoksiklav

49. Emodin, an anthracene derivative, haspurgative 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*)

50. Cardioglycosides of *Adonis vernalis* are used for heart failure treatment. This plant raw material should be stored:

- A. According to the list B
- B. According to the list A
- C. Under normal conditions
- D. Protected from CO_2
- E. In metal containers

51. Theory of management currently marks out four the most important approaches to the management. Choose 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

52. A pharmacy manager is writing the monthly "Inventory report". What business transactions should be represented in the expenditure item of the report?

- A. Drugs realization
- B. Medicinal plant raw material purchasing
- C. Payroll payment
- D. Amortization charged to operation
- E. Extra-evaluation of laboratory-packaging works

53. During inventory of a pharmacy the surplus of inventory holdings was revealed. What actions concerning the surplus should be taken by the inventory commission?

- A. Take on charge
- B. Confiscation by superior organization
- C. Abolishment
- D. Immediate realization
- E. Writing-off

54. Which of the listed preparations should be used as antidote and included into the first-aid kit required at factories where acute intoxications with arsenic, mercury, chrome and bismuth compounds are possible?

- A. Unithiolum
- B. Adrenalinum
- C. Atropinum
- D. Morphinum
- E. Droperidolum

55. A patient has chronic pancreatitis with apparent presentations of pancreatic exocrine hypofunction. Which of the following drugs would be the most appropriate in this case?

- A. Pancreatinum
- B. Drotaverine
- C. De-Nol
- D. Omeprazole
- E. Acidin pepsinum

56. On the initiative of the manufacturing company some amendments to a drug information leaflet are to be made for the restriction of the drug use. What type of marketing is applied in this case?

- A. Opposed
- B. Conversion
- C. Remarketing
- D. Synchromarketing
- E. Incentive

57. A doctor prescribed an olive oil emulsion whose composition includes anesthesin. In order that anesthesin can be incorporated into the emulsion it should be dissolved:

- A. In the oil before emulsifying
- B. In the mature emulsion
- C. In the treated water
- D. In the primary emulsion
- E. In the alcohol and add to the primary emulsion

58. Injection solutions of salts derived from weak acids and strong bases require stabilization. What stabilizers are used for these solutions?

- A. 0,1 M sodium hydroxide solution
- B. 0,1 M acid chloride solution
- C. Trilon B
- D. Ascorbic acid
- E. Butylhydroxytoluene (BHT)

59. O-methylation is an important method of organic substances biotransformation

in the body, compounds that are subject to such method contain:

- A. Phenolic groups
- B. Amides
- C. Thiol groups
- D. Nitro groups
- E. Carboxyl groups

60. Which antiseptic preparation has bactericidal effect due to the formation of atomic oxygen?

- A. Potassium permanganate
- B. Chloraminum
- C. Furacilinum
- D. Aethonium
- E. Silver nitrate

61. Styles of maize with stigmata containing fatty acids, vitamins, essential oils, saponins and other substances are used as:

- A. Diuretic and choleric
- B. Sedative and anticonvulsant
- C. Cardiotonic and antiarrhythmic
- D. Expectorant and antitussive
- E. Bactericidal and astringent

62. Yellow gentian contains bitter glycosides. Raw material of this plant is recommended for production of drugs with the following effect:

- A. Stimulates appetite
- B. Tonic
- C. Diuretic
- D. Hepatoprotective
- E. Venotonic

63. One of the tablet coatings is enterosoluble capsule. They get solved in:

- A. Bowels
- B. Stomach
- C. Oral cavity
- D. Rectum
- E. -

64. A pharmacist-technologist has to prepare a medication with the following formulation:

*Rp.: Mentholi 0,1
Glycerini 10,0
M.D.S. Nasal drops.*

What is the reason for their incompatibility?

- A. Insolubility of ingredients
- B. Separation of the mixture
- C. Adsorption of the medicinal agent
- D. Eutectic alloy formation
- E. Coagulation of colloidal system

65. A pharmacy got an order for a mixture containing manzanita decoction and belladonna extract. What is the reason for their incompatibility?

- A.** Sedimentation
- B.** Hydrolysis
- C.** Redox (oxidation-reduction) processes
- D.** Liberation of gaseous substances
- E.** Coagulation of colloidal systems

66. Two pharmaceutical enterprises simultaneously applied to a bank for establishing a running account. The bank refused the application to one of the enterprises. The reason for the refusal is that the enterprise:

- A.** Has not registered a statute
- B.** Is located in another administrative area
- C.** Has no stamp
- D.** Has not provided the balance
- E.** Has not provided the report on financial results

67. Examination of a patient who has been treated for rheumatoid arthritis for a long time revealed hyperglycemia. What drug might have caused it?

- A.** Dexamethasone
- B.** Diclofenac sodium
- C.** Ibuprofen
- D.** Chloroquine
- E.** Levamisole

68. A pharmacist prepared eyedrops with boric acid. What sterilization method was applied?

- A.** Sterilization by saturation vapor pressure
- B.** Tyndallization
- C.** Sterilization by dry heat
- D.** Sterilization by gases
- E.** By high-frequency current

69. A pharmacist refused preparation of nasal drops to a patient because of incompatibility between collargol and dimedrol written in the prescription. What is the reason for incompatibility between these ingredients?

- A.** Coagulation
- B.** Immiscibility
- C.** Adsorption
- D.** Dissection
- E.** Eutectic formation

70. Preparation of multicomponent powders with phenyl salicylate and

camphor is accompanied by generation of some fluid. What is the reason for their incompatibility?

- A.** Eutectic alloy formation
- B.** Adsorption
- C.** Crystallization water exudation
- D.** Hygroscopic components
- E.** Gases separation

71. A 54-year-old patient who has been suffering from hyperacidic gastritis for several years was prescribed almagel. What pharmacotherapeutical complications on the part of digestive organs may be expected in the first place?

- A.** Constipation
- B.** Nausea
- C.** Anorexia
- D.** Emesis
- E.** Diarrhea

72. At the initial stage of establishing a pharmaceutical enterprise the internal disciplinary regulations should be adopted. One of the primary matters is the duration of the lunch break for the employees. According to the Labour Code of Ukraine, the break duration must be as follows:

- A.** Up to 2 hours
- B.** Up to 1 hour
- C.** Not less than 3 hours
- D.** 2,5 hours
- E.** -

73. During the analysis of diethyl ether (Aether medicinales) you can determine presence of aldehydes as a specific admixture. Which of the following reagents can be used for determining presence of aldehyde admixture?

- A.** Potassium tetraiodomercurate alkaline
- B.** Phenolphthalein
- C.** Iron (III) chloride
- D.** Acetic acid
- E.** Potassium sulfate

74. A 26-year-old patient was diagnosed with community-acquired pneumonia provoked by mycoplasma. Choose the appropriate antimicrobial preparation for the patient treatment:

- A.** Rovamycine
- B.** Amoxicillin
- C.** Gentamycinum
- D.** Benzylpenicillinum
- E.** Amoksiklav

75. A 60-year-old patient has essenti-

al hypertension stage II, coronary disease, bronchial asthma. After pharmacotherapy correction the patient exhibited a bronchospastic attack, intensified dyspnea. What drug provoked this complication?

- A. Propranolol
- B. Nifedipine
- C. Euphyllinum
- D. Mucaltinum
- E. Salbutamol

76. A 70-year-old patient consulted a doctor about elevated arterial pressure. He has a history of benign hyperplasia of prostate. What drug should be administered in this case?

- A. Doxazosin
- B. Enalapril
- C. Propranolol
- D. Diltiazem
- E. Losartan

77. 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. Hydrochlorothiazide
- E. Calcium chloride

78. 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 such side effect?

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

79. A pharmacist revealed incompatibility in a prescription for powders with ascorbic acid and hexamethylenetetramine. What process takes place when these components are combined?

- A. Mixture dampening
- B. Eutectic formation
- C. Immiscibility
- D. Substances adsorption
- E. Crystallization water exudation

80. Efficiency of aerosol therapy is to a considerable extent determined by the

size of disperse particles. What factor determines the size of aerosol particles during dispersion of an aerosol?

- A. Exit port diameter, propellant vapour pressure
- B. Reduction range, container quantity
- C. System homogeneity, dispersion velocity
- D. Percentage of phase, filling temperature
- E. Fractional composition, containers filling method

81. In order to get registered in state authorities pharmacies as legal persons must possess authorized capital stock. What amount is identified as the authorized capital stock?

- A. The amount recorded in constituent documents
- B. The amount of noncurrent assets
- C. The amount of fund formation sources
- D. Total assets
- E. The amount of debts of an enterprise

82. In the production of injection solutions the activated carbon is used as:

- A. Purification
- B. Buffer system creation
- C. Antioxidant properties increasing
- D. Chemical resistance of ampoule's glass increasing
- E. Ampoules residual stress relaxation

83. Which of the listed antibacterial drugs **should NOT be administered** to a patient with diabetes mellitus type II being treated with glibenclamid?

- A. Co-trimoxazolom
- B. Midecamycin
- C. Gentamycinum
- D. Benzylpenicillinum
- E. Doxycycline

84. Which of the listed pharmacological groups of antihypertensive drugs is contra-indicated the patients with bronchial asthma?

- A. Beta-adrenergic blocking agent
- B. ACE inhibitor
- C. Calcium channel blockers
- D. Angiotensin receptors blockers
- E. Diuretics

85. A pharmacist prepared a surface action ointment. What ointment base was used?

- A. Vaseline (petrolatum)
- B. Lanoline
- C. Kutumova's basis
- D. Gelatin-glycerol base
- E. Polyethylene oxide basis

86. At the end of each month a pharmacy manager writes an Inventory report. This document relates to the following type of accounting:

- A. Intraeconomic
- B. Accountancy
- C. Financial
- D. Statistical
- E. Taxation

87. Preparations of common valerian are used in medical practice as sedative drugs. The main feature that allows to distinguish valerian from the admixtures is:

- A. Specific odor
- B. No specific odor
- C. Specific taste
- D. Specific color of raw materials
- E. Stems remains

88. After a craniocerebral trauma a patient was administered pyracetam. This drug relates to the following pharmacological group:

- A. Nootropic agent
- B. Nonnarcotic (nonopioid) analgetic
- C. Tranquilizers
- D. Anesthetic agent
- E. Neuroleptic

89. In order to arrest stenocardia attacks a patient takes nitroglycerin capsules. What is the rational way of the drug introduction?

- A. Sublingual
- B. Peroral
- C. Rectal
- D. Inhalation
- E. Hypodermic

90. A patient after bee's stings has angioedema (Quincke's edema). Which drug should be immediately inject to eliminate this condition?

- A. Epinephrine hydrochloride
- B. Sodium chloride
- C. Platyphyllini hydrotartras
- D. Atropine sulfate
- E. Anaprilinum

91. A patient with hypertension was administered metoprolol for the arterial

pressure reduction. What is its mechanism of action?

- A. Beta adrenoreceptor blockade
- B. Alpha adrenoceptor blockade
- C. Indirect adrenomimetic action
- D. Antispasmodic
- E. Angiotensinic receptors blockade

92. A pharmacy received some medicines from the warehouse. What medicine is subject to the stocktaking in the pharmaceutical institutions?

- A. Codeine
- B. Aminationum
- C. Corvalolum
- D. Analginum
- E. Butadionum

93. It is necessary to analyse incrustation of reducing tube after Marsh test for arsenicum to exclude in biological materials compounds of:

- A. Stibiy
- B. Argentum
- C. Waist
- D. Cadmium
- E. Zinc

94. 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. Primary aromatic amino
- B. Secondary aromatic amino
- C. Sulpho group
- D. Carboxyl group
- E. Aldehyde group

95. In order to detect an admixture of potassium in medical preparations a pharmacy analyst should carry out a reaction with:

- A. Sodium tetraphenylborate
- B. Sodium tetraborate
- C. Boric acid
- D. Sulfuric acid
- E. Salicylic acid

96. 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. Ammonium iron (III) sulfate
- C. Potassium chromate
- D. Phenolphthalein
- E. Sodium eozinat

97. A patient with cholelithiasis was prescribed the following drug for the purpose of cholesterol gallstone dissolution:

- A. Ursodeoxycholic acid
- B. Gamma-amino-butyric acid
- C. Acetylsalicylic acid
- D. Citric acid
- E. Mefenamic acid

98. For thrombosis treatment a patient was prescribed a drug from the group of direct anticoagulants. What drug is it?

- A. Heparin
- B. Fenilin (phenylinum)
- C. Syncumar
- D. Neodicumarin
- E. Vikasol

99. A pharmaceutical enterprise produces nitroglycerine tablets. What is the method of their production?

- A. Extrusion
- B. Direct pressing, without adjuvants
- C. Direct pressing with addition of adjuvants
- D. Pressing with preliminary wet granulation
- E. Pressing with preliminary dry granulation

100. Substances that enter the body subject to various transformations under enzymes influence. What is the direction of mono- and polyatomic alcohol metabolism has the largest toxicological value?

- A. Oxidization
- B. Hydroxylation
- C. Dealkylation
- D. Conjugation
- E. -

101. A 68-year-old female patient has been continuously taking furosemide for heart failure treatment. What drug should be used to prevent hypokalemia in patients taking furosemide?

- A. Panangin
- B. Atp-long
- C. Mildronatum
- D. Trimetazidine
- E. Sustac forte

102. A pharmacy received a prescription for preparation of dermatological ointment with benzylpenicillin. Specify the type of ointment that necessary to prepare:

- A. Suspension ointment
- B. Liquid ointment
- C. Hydrophilic ointment
- D. Alloy ointment
- E. Combined

103. During production of powders in a pharmacy physiochemical properties of certain ingredients should be taken into consideration. What pharmaceutical substance can be incorporated into the powder mass without additional grinding?

- A. Starch
- B. Camphor
- C. Menthol
- D. Salicylic acid
- E. Streptocid

104. In course of pharmacotherapy of bronchitis a patient was found to have dyspeptic disorders, photodermatitis, liver dysfunction. Which of the prescribed drugs might have caused these manifestations?

- A. Doxycyclin
- B. Paracetamol
- C. Ascorbic acid
- D. Acetylcysteine
- E. Codeine phosphate

105. A patient who has been suffering from gastric diseases for a long time is found to have hyperchromic anemia. Which of the following drugs is applied for this pathology treatment?

- A. Cyanocobalamin
- B. Ascorbic acid
- C. Unitiol
- D. Ferrum Lek
- E. Oxyferriscorbone

106. A 25-year-old woman presenting with acute morphine intoxication was given an injection of naloxone that caused rapid improvement of her condition. The mechanism of action of this preparation is based on the block of the following receptors:

- A. Opioid receptors
- B. GABA-receptors
- C. Serotonin receptors
- D. Dopamine
- E. Benzodiazepine receptors

107. A phytopreparation "Flacarbium" has spasmolytic, anti-inflammatory and antiulcer effect. This preparation is produced out of the following plant:

- A. Licorice (*Glycyrrhiza*)
- B. Jacob's ladder blue (*Polemonium caeruleum*)
- C. Buckeye (*Aesculus*)
- D. Mountain angelica (*Aralia mandshurica*)
- E. Pot marigold (*Calendula officinalis*)

108. Specify the reaction to the ester-type drugs that is tolerated by the Ukrainian State Pharmacopoeia:

- A. Formation of iron hydroxamates
- B. Formation of azo dye
- C. Formation of indophenol
- D. Formation of 3-bromphenol
- E. Formation of taylorhin

109. 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. Methyl orange
- C. Phenolphthalein
- D. Thymolphthalein
- E. Eriochrome black

110. Which of the following drugs a pharmacist-analyst can quantify by cerimetry method?

- A. Vicasolum
- B. Acetylsalicylic acid
- C. Sodium benzoate
- D. Phenyl salicylate
- E. Phenobarbital

111. A pharmacy makes wholesale purchases of health and hygiene products. An agent works under the contract with the manufacturer and makes deals at the manufacturer's cost. The agent may be entitled to exclusive distribution in some regions. What kind of agent is it?

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

112. Pharmaceutical market is in such a situation when there is only one company selling a certain product. Specify the competitive structure of the market:

- A. Pure monopoly market
- B. Pure competition market
- C. Monopolistic competitive market
- D. Oligopolistic market
- E. Pure monopoly market and oligopolistic market

113. A pharmaceutical company "Adonis" promotes its new products by means of advertisement that informs the customers about the product, highlights its advantages, typical features and properties. What kind of advertisement is it?

- A. Informational
- B. Aggressive
- C. Supporting
- D. Indirect
- E. Direct

114. Liquid dosage forms are prepared with concentrated solutions of pharmaceutical substances or under consideration of volume increase factor during substance dissolution when the following substance is used as a solvent:

- A. Treated water
- B. Aromatic water
- C. Glycerol
- D. Ethanol (ethyl alcohol)
- E. Polyethylene glycol-400

115. 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 thiosulfate
- B. Calcium bromate
- C. Sodium edetate
- D. Sodium nitrite
- E. Argentum nitricum (silver nitrate)

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

- A. Sodium nitrite
- B. Sodium thiosulfate
- C. Sodium edetate
- D. Potassium bromate
- E. Argentum nitricum

117. 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. Specific sulfides admixture
- B. Sulphates admixture
- C. Sulfur admixture
- D. Sodium chloride admixture
- E. Iodides admixture

118. 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. Acidimetry in aqueous medium
- C. Iodometry
- D. Nitritometry
- E. Bromatometry

119. In Ukraine natural persons as small business entities are allowed to use the simplified tax system. What limit on the number of employees is established for such enterprises?

- A. No more than 10 persons
- B. No more than 20 persons
- C. No more than 30 persons
- D. No more than 40 persons
- E. No more than 50 persons

120. For the natural persons being small business subjects the simplified tax system is effective. But there is a limit of annual proceeds upon sale. What is the boundary amount of proceeds?

- A. Up to 500 thousand UAH
- B. Up to 750 thousand UAH
- C. Up to 100 thousand UAH
- D. Up to 1 million UAH
- E. Up to 5 million UAH

121. Simplified tax system implies replacement of several taxes by a single one. What limit on the number of employees is established for the legal persons to implement the simplified tax system?

- A. 50 persons
- B. 10 persons
- C. 25 persons
- D. 100 persons
- E. 75 persons

122. A pharmacy as a legal person being the small enterprise plans to move to a simplified taxation system from 1 January. What is the limitation of the amount of sales revenue for such companies?

- A. Up to 1 million UAH
- B. Up to 500 thousand UAH
- C. Up to 250 thousand UAH
- D. Up to 750 thousand UAH
- E. Up to 100 thousand UAH

123. Fatty oil containing unsaturated fatty acids are used for atherosclerosis prevention. What herbal raw material contains such fatty oil?

- A. Cucurbit seeds
- B. Buckhorn plantain (*Plantago lanceolata*) seeds
- C. Chestnut (*Castanea*) seeds
- D. Parsnip fruitages
- E. Scurfy pea (*Psoralea*) fruitages

124. An ampule production unit produces glucose solution. If the special sort of glucose "for injections" is not available, then the glucose should be separated from the following admixtures:

- A. Pyretogenetic and dyes
- B. Sulfates and iron (Fe)
- C. Manganese and iron (Fe)
- D. Pyretogenetic and proteic substances
- E. Proteic substances and dyes

125. A phytochemical production unit produces biogenic stimulators out of different raw materials. Specify the biogenic stimulators of organo-mineral origin:

- A. Peloidinum, Humisolum, Torfotum, Fibs pro injectionibus
- B. Extractum Aloes fluidum, Linimentum Aloes, Succus Aloes, Biosedum
- C. Vitreous body, Placenta injection, Plasmolum, Solcoseryl
- D. Extractum Aloes fluidum, Linimentum Aloes, Plasmolum
- E. Peloidinum, Humisolum, Torfotum, Plasmolum, Solcoseryl

126. A pharmaceutical enterprise produces water solutions. The solution of the following substance is produced by method of chemical interaction and electrochemically:

- A. Aluminum hydroxide acetate
- B. Plumbum hydroxide acetate
- C. Calcium gluconate
- D. Polyvinyl alcohol
- E. Potassium arsenite

127. Powders make up an important group among the extemporal medicinal preparations. Which of the following components can be incorporated into a powder without being preliminarily ground?

- A. Basic Bismuth nitrate
- B. Ascorbic acid
- C. Camphor
- D. Xeroform
- E. Calcium gluconate

128. Upper airways diseases can be treated by means of herbal raw materials containing mucilages. The plant source of this compound class is:

- A. *Radix Althaeae*
- B. *Radix Inulae*
- C. *Radix Ipecacuanhae*
- D. *Radix Rhodiolae*
- E. *Radix Belladonnae*

129. The basic structure of steroid hormones is hydrocarbon skeleton - cyclopentane perhydrophenanthrene. What natural compound is used for testosterone propionate production?

- A. Cholesterol
- B. Indole
- C. Naphthalene
- D. Phenanthrene
- E. Anthracene

130. 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. Calconcarboxylic acid
- B. Methyl red
- C. Crystal violet
- D. Thymolphthalein
- E. Tropeoline 00

131. Reaction with *KI* solution which is called "Golden Rain Reaction" helps to detect presence of the following toxic metal:

- A. *Pb*
- B. *Ba*
- C. *Cu*
- D. *Ag*
- E. *Mn*

132. Presence of ethanol in a biological sample can be demonstrated by the following reaction:

- A. Iodoform test
- B. With sodium nitroprusside
- C. With Frede's reagent
- D. Liberman's reaction
- E. With iron (III) chloride

133. Preparations containing cardosteroids are produced out of the following herbal raw material:

- A. *Herba Convallariae*
- B. *Cortex Quercus*
- C. *Radix Taraxaci*
- D. *Folia Ficus Caricae*
- E. *Folia Sennae*

134. A laboratory received some herbal raw material for analysis. It is a composition of ovoid-pointed leaves up to 25 cm long and 20 cm wide; the leaf base is cuneate, the leaf edge is emarginate, The cutting is long and cylindrical. The leaf venation is pinnatisect; the midrib and the first-order veins project significantly on the inferior surface of the leaf. The superior leaf surface is dark green, the inferior surface is light green. The plant has a weak narcotic smell. The taste cannot be determined. The plant is poisonous! The described herbal raw material relates to the following plant:

- A. *Datura stramonium*
- B. *Passiflora incarnata*
- C. *Chelidonium majus*
- D. *Vinca minor*
- E. -

135. It is necessary to prescribe non-steroid anti-inflammatory drug for patient with rheumatoid arthritis and concomitant duodenal ulcer. Which drug is the drug of choice in this case?

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

136. A pharmacist is preparing powders according to the following formulation:

Rp.: Scopolamini hydrobromidi 0,0003
Ephedrini hydrochlorodi 0,05
Sachari 0,15
M.f. pulvis
D.t.d. № 10
S. 1 powder thrice a day.

Calculate the mass of 1 powder providing that the trituration (1:100) is used:

- A. 0,20
- B. 0,15
- C. 0,23
- D. 0,17
- E. 0,203

137. A pharmacist prepared a suspension. It must contain the following amount of fluid in order to comply with Deriagin's rule:

- A. 0,4-0,6 millilitre for 1,0 substance
- B. 1-0,8 millilitre of 1,0 substance
- C. 1,5-0,7 millilitre for 1,0 substance
- D. 0,9-2 millilitres for 1,0 substance
- E. 0,1-1,0 millilitre for 1,0 substance

138. The risk can arise from some forms of activity connected with production of goods and services, their selling, commodity-money and financial operations, commerce, implementation of socio-economic and scientific-and-technical projects. This is the definition for the following concept:

- A. Business risk
- B. Loss of property
- C. Labour loss
- D. Loss of time
- E. Financial loss

139. The total of business transaction records of assets and liabilities in the accounting statement for a certain period is called:

- A. Turnover
- B. Amount of balance
- C. Debit
- D. Credit
- E. Balance

140. Novocaine metabolism in the organism results in generation of p-amino-benzoic acid. What metabolic process underlies this conversion?

- A. Hydrolysis
- B. Dealkylation
- C. Oxidization
- D. Rehabilitation
- E. Conjugation

141. Tanning agents of silverweed roots and rhizomes are used as an astringent. What species of silverweed is pharmacopoeial?

- A. *Potentilla erecta*
- B. *Potentilla argentea*
- C. *Potentilla pilosa*
- D. *Potentilla impolita*
- E. *Potentilla anserina*

142. Some domestic and foreign hepatoprotective activity preparation are made of holy thistle bearing. Purity of this material is determined by the content of:

- A. Flavolignan
- B. Coumarins
- C. Alkaloids
- D. Vitamins
- E. Terpenoids

143. Preparations made out of eleutherococcus roots and rhizomes are administered as a tonic and adaptogenic drug. If these preparations cannot be found in a pharmacy, they can be substituted by the analogous preparations made of the following raw material:

- A. Ginseng roots
- B. Elecampane roots
- C. Rhizomes and roots of valerian
- D. Polemonium roots
- E. *Acorus calamus* roots

144. A pharmaceutical enterprise produces neogalenic preparations. Which preparation is produced by the use of Soxhlet circulation apparatus?

- A. Adonisidum
- B. Digoxin
- C. Corglyconum
- D. Lantosidum
- E. Celanidum

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

- A. Phenolphthalein
- B. Starch
- C. Tropeolin 00
- D. Ferroin
- E. Naphtholbenzein

146. A pharmacy got an order for powders containing ascorbic acid and sodium hydrocarbonate. What process takes place between the ingredients?

- A. Dampening
- B. Oxidization
- C. Absorption
- D. Sedimentation
- E. Stratification

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

- A. Sulfomolybdenum
- B. Cupric tartrate
- C. Thioacetamide
- D. Acetylacetone
- E. Hypophosphite

148. Salicylates are widely applied in medical practice as anti-inflammatory drugs. For quantitative analysis of salicylic acid the following method is applied:

- A. Alkalimetry
- B. Nitritometry
- C. Argentometry
- D. Permanganatometry
- E. Chelatometry

149. As a pharmacist was serving a customer who ordered a nonprescription drug he realized that the patient didn't apprehend the verbal information. Name the communicative barriers that arise when words or symbols may have different meanings for the information sender and the recipient:

- A. Semantic barriers
- B. Neglect of facts
- C. Nonverbal barriers
- D. Failure to understand the importance of information
- E. Stereotype mentation

150. A pharmacist has applied for a job of a stockkeeper at a wholesale pharmaceutical enterprise. What trial period doesn't require agreement with the trade-union committee?

- A. Up to three months
- B. Up to one month
- C. Up to two months
- D. Up to four months
- E. Up to six months

151. Marketing manager at a pharmaceutical factory is planning its communication policy. Which component of the marketing communication systems has the highest value for one contact?

- A. Personal sale
- B. "Public relations"
- C. TV advertising
- D. Periodical advertising
- E. Sales promotion

152. Incoming control is conducted in the course of wholesale and retail trade, such control is carried out during receipt of goods by visual inspection or analysis of drug. Incoming control is carried out by authorized person, which is assigned by:

- A. Managers order
- B. State inspection of drugs quality control
- C. Head of regional structure
- D. Proprietor of an enterprise
- E. The order of head of territorial inspection

153. When a pharmacy records goods as received, it normally specifies the amount of the markup intended for expenditure coverage and profit gaining. Give the definition for the markup:

- A. The difference between the sale price and purchase price of goods
- B. The difference between the sales price and markup
- C. The difference between the sales price and the customs price
- D. The amount of goods sold
- E. Rummage (goods remains) at the end of the month

154. A joint-stock company involved into production and selling of drug preparations has developed a structure for working with various consuming organizations. Such organizational structure is called:

- A. Divisional structure
- B. Functional structure
- C. Departmentalization
- D. Array (matrix) structure
- E. Bureaucratic structure

155. Which of the following drug forms is produced in granules?

- A. Plantaglucide
- B. Diazolinum
- C. Mucaltinum
- D. Revitum
- E. Lincomycin hydrochloride

156. On the base of licorice root different drug dosage forms are produced, notably tablets, powders, syrups, teas. The only unused form is injection solution. Licorice roots exhibit haemolytic properties typical for the following active substances:

- A. Saponins
- B. Alkaloids
- C. Essential oils
- D. Iridoids
- E. Polysaccharides

157. Benzylpenicillin sodium is not used per os, because this drug:

- A. Destroys gastric *HCl*
- B. Poorly absorbed in the intestine
- C. Irritates gastric mucosa
- D. Reduces formation of gastric *HCl*
- E. Is destroyed by penicillinase

158. A pharmacy produces some injection solutions that have to be apyrogenic. Solution of the following substance can be depyrogenized by method of adsorption with activated carbon?

- A. Glucose
- B. Atropine sulfate
- C. Papaverine hydrochloride
- D. Scopolamine hydrobromide
- E. Platyphyllini hydrotartras

159. An accountant is recording business transactions of a pharmacy. Which transaction is to be entered on the credit side of the cash-account?

- A. Payroll
- B. Pharmacies revenue
- C. Small retail network revenue
- D. Money receipt for salaries
- E. Accountable person repayment

160. Compulsory financial reporting of pharmacies includes the balance sheet. Changes in value, composition and structure of the capital stock are estimated on the base of:

- A. I section of assets
- B. I section of liabilities
- C. II section of assets + III section of assets
- D. IV section of liabilities
- E. I section of liabilities + IV section of liabilities

161. When heroin comes into an organism, it metabolizes chiefly to:

- A. Morphine and 6-monoacetylmorphine
- B. Codeine
- C. Morphine
- D. 6-acetylmorphine
- E. 3-acetylmorphine and morphine

162. Powders that quickly enter into a reaction in presence of water and emit carbon dioxide relate to the following

group:

- A. Effervescent powder
- B. Soluble powder
- C. Powders for oral use
- D. Nasal powders
- E. Powders for external use

163. A patient suffering from allergic rhinitis was prescribed ephedrine in form of nasal drops. The patient has significantly benefited from nasal instillation, and this stimulated him to use the drug every 2 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

164. Prescriptions for drugs being subject to the stocktaking and supplied on favourable terms or free of charge except for narcotic (psychotropic) drugs and tramadol are written out:

- A. In 2 copies of form F-1
- B. On the pink form
- C. On the form F-3
- D. On the form F-1
- E. On the forms F-3 and F-1

165. What management style is characterized by manager's particular compliance, when manager initiates goals formation by his subordinate and is ready to accept it without reservations?

- A. Laissez-faire management style
- B. Democratic management style
- C. Bureaucratic style
- D. Collective style
- E. Combined style

166. Activity of pharmaceutical institutions is subject to licensing. What is the duration of licence for drugs and healthcare products sale?

- A. Five years
- B. One year
- C. Two years
- D. Four years
- E. Three years

167. In case of loss of license a pharmacist should address an application for a duplicate to a licensing authority. The licensing authority is obliged to issue the duplicate to the applicant

no later than:

- A. Three working days from the date of application receipt
- B. One month from the date of application receipt
- C. Two months from the date of application receipt
- D. Three months from the date of application receipt
- E. The duplicate isn't issued

168. Lapkina-Lazarenko method of ethylene glycol separation enables to isolate it effectively from the objects of chemotoxicological analysis. What is the selective transporter of ethylene glycol from the objects to the distillate?

- A. Benzol
- B. Water
- C. Ethanol
- D. Chloroform
- E. Acetone

169. Which anaesthetic, anti-inflammatory, the least harmful for the stomach preparation can be recommended to a patient with exacerbation of rheumatoid arthritis?

- A. Celecoxib
- B. Diclofenac sodium
- C. Acetylsalicylic acid
- D. Ibuprofenum
- E. Indometacinum

170. Aerosol department of a pharmaceutical factory uses condensed gases in the capacity of propellents. Which of the following substances relates to the group of condensed gases?

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

171. A patient fell ill with severe pneumonia was prescribed ceftriaxonum once a day. Prescription of ceftriaxonum once a day connected with the fact that the drug:

- A. Slowly eliminated from the body
- B. Has bactericidal effect
- C. Pluripotential
- D. Accumulates in the lungs
- E. Poorly absorbed from the injection site

172. Which of the following is the drug of choice for bronchial asthma attacks

prevention?

- A. Cromolyn sodium
- B. Salbutamol
- C. Drotaverine
- D. Diphenhydramine hydrochloride
- E. Ambroxol

173. A pharmacist is preparing rectal suppositories based on cocoa butter and containing dimedrol with mass concentration less than 5%. For rational incorporation of dimedrol into the base it should be solved:

- A. In the minimum amount of treated water
- B. In olive oil
- C. In the melted cocoa butter
- D. In vaseline oil
- E. In alcohol

174. A pharmacist needs to sterilize 250 ml of glucose solution for injections. How many minutes should the solution undergo sterilization in the autoclave under the temperature of 120°C ?

- A. 12
- B. 8
- C. 15
- D. 25
- E. 30

175. A pharmacist is preparing an ointment under aseptic conditions on the sterile ointment base - composition of vaseline and lanoline at a ratio 6:4. The drug substance is incorporated by suspension type. Such technology of ointment preparation is typical for the following substance:

- A. Benzylpenicillin sodium salt
- B. Sodium chloride
- C. Thiamine chloride
- D. Pilocarpine hydrochloride
- E. Sodium sulfate

176. 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. Complexometry
- C. Acidimetry
- D. Alkalimetry
- E. Nitritometry

177. A pharmacy has sulfonamide bisepitol

on sale. What chemical compounds are the main components of this drug?

- A. Sulfamethoxazole, trimethoprim
- B. Sulfazin, salazodimethoxinum
- C. Sulgin, norsulfazol
- D. Phthalazolom, sulfadimezin
- E. Urosulfan, sulfapiridazin

178. 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. Gluconic
- C. Glutamic
- D. Glyoxylic
- E. Hexanic

179. Public health services attach great importance to the drug quality, for this reason a pharmaceutical enterprise has concentrated its efforts upon the improvement of qualitative characteristics of its products. What concept of marketing management is applied in this company?

- A. Product improvement
- B. Production improvement
- C. Modern marketing
- D. All answers are correct
- E. There is no correct answer

180. 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. Substances accumulation in the body

181. A pharmaceutical factory produces herbal juice out of fresh raw material. What operation should be performed at the stage of juice purification?

- A. Heating followed by quick cooling
- B. Sedimentation
- C. Adsorption
- D. Filtration
- E. Crystallization

182. Which of the mentioned below

drugs has the following chemical name: n-aminobenzoic acid diethylaminoethyl ester hydrochloride:

- A. Novocaine
- B. Dimedrol
- C. Streptocid
- D. Tetracaine
- E. Streptomycin

183. Absorption of tetracycline preparations will be reduced when they are administered simultaneously with antacids. This is an example for:

- A. Pharmacokinetic incompatibility
- B. Pharmaceutical incompatibility
- C. Pharmacodynamic incompatibility
- D. Drugs synergism
- E. Functional drugs antagonism

184. Inventory in a pharmacy revealed a shortage within the range of natural loss. This shortage will be rated as expenses at the following price:

- A. Wholesale prices
- B. Consumer prices
- C. Contractual prices
- D. Quota purchase prices
- E. Negotiated price

185. A pharmacy got an order for manzanita decoction and hexamethylenetetramine. A pharmacist cancelled it with a stamp "Invalid prescription". What is the reason for the incompatibility?

- A. Deposition
- B. Eutectic
- C. Oxidization
- D. Moisture-repellant
- E. Insolubility

186. A 24-year-old patient has been suffering for diabetes mellitus type I for 8 years. Diabetic nephropathy provoked development of symptomatic arterial hypertension. Which of the following drugs is indicated for long-term therapy?

- A. Enalapril
- B. Propranolol
- C. Clonidine
- D. Dibazol
- E. Dichlothiazide

187. On the wage of pharmacy employees the personal income tax is levied. What pays **are NOT** included into the total monthly income being subject to this kind of taxation?

- A. The amount of maternity support
- B. The amount of leaf of invalidity
- C. Dividends
- D. The amount of assistance for the care of patients
- E. The amount of in-kind benefit

188. Ions of some metal make it difficult to detect zinc ions in the mineralizate. For this reason zinc is separated from mineralizate by converting it into:

- A. Diethyldithiocarbamate
- B. Dithizone
- C. Hexacyanoferrate (II)
- D. Sulfide
- E. Tetraiodomercurate

189. Pharmacy №5 cleared its indebtedness to a supplier in the amount of 3000 uah by drawing this sum from its current account. What changes in the sum total of the balance will be observed?

- A. Total assets and liabilities will decrease by 3000 UAH
- B. Total assets and liabilities will not change
- C. Total assets and liabilities will increase by 3000 UAH
- D. Total assets decreased, while liabilities increased by 3000 UAH
- E. Total assets increase, while liabilities decreased by 3000 UAH

190. A pharmacist technologist revealed incompatibility in the following prescription:

*Rp.: Mentholi 0,5
Natrii hydrocarbonatis
Natrii tetraboratis aa 1,5
Aquae purificatae 100 ml
M.D.S. 1 tablespoon twice a day.*

In order to prepare this drug form the pharmacist should apply the following techniques:

- A. Add stabilizer
- B. Apply fractional dissolution
- C. Apply another solvent
- D. Change one of the component
- E. Change dosage form

191. Restharrow (Ononis) root is used for production of a tincture applied for treatment of haemorrhoidal haemorrhages. Isoflavonoids can be identified in the raw material by means of:

- A. Chromatographic method
- B. Cyanidin test
- C. Hemolytic index
- D. Biological standardization
- E. Foam number

192. Hawthorn flowers are used for production of cardiotoxic drugs. During procurement of this crude drug the flowers of the following plant can appear in it:

- A. Blackthorn
- B. Buckthorn
- C. Bird-cherry
- D. Brier
- E. Elder

193. A patient being treated in the infectious disease ward for dysentery is administered phthalazol. What is the reason for phthalazol being used only for treatment of enteric infections?

- A. The drug is not absorbed from the gastrointestinal tract
- B. The high degree of reabsorption in the kidneys
- C. Slowly eliminated from the body
- D. Rapidly absorbed in the gastrointestinal tract
- E. Rapidly excreted in unchanged form

194. 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 ferrocyanide
- B. Sodium chloride
- C. Potassium permanganate
- D. Sodium tetraborate
- E. Sodium cobaltnitrite

195. A consulting pharmacist informed a patient about possible side effect of metronidazole that is normally provoked by alcohol intake. What is the mechanism of this phenomenon?

- A. Enzyme alcohol dehydrogenase blocking
- B. Enzyme alcohol dehydrogenase activation
- C. Enzyme acetylcholinesterase blocking
- D. Enzyme acetylcholinesterase activation
- E. Enzyme glucose 6-phosphate dehydrogenase activation

196. Analytical laboratories often use 2,6-dichlorophenolindophenol solution, which is normally blue and can be decolouri-

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

- A. Ascorbic acid
- B. Salicylic acid
- C. Nicotinic acid
- D. Benzoic acid
- E. Acetylsalicylic acid

197. A patient with hypertensive crisis received an injection of ganglionic blocker benzohexonium. What side effect might be expected after the drug injection?

- A. Orthostatic hypotension
- B. Withdrawal (abstinence) syndrome
- C. Central nervous system depression effect
- D. Taste violation
- E. Diarrhea

198. 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. Copper sulfate solution
- B. Silver nitrate solution
- C. Alkaline solution
- D. Hydrochloric acid solution
- E. Iron (III) chloride solution

199. A 40-year-old patient suffers from bronchial asthma and cardiac rhythm disturbance in form of bradyarrhythmia. Drugs of which pharmacological group should be administered for bronchospasm suppression?

- A. M-cholinergic antagonists
- B. Beta-blockers
- C. M-cholinomimetics
- D. Cholinesterase inhibitors
- E. Muscle relaxant

200. An interhospital pharmacy got an order from a surgical department for a depolarizing muscle relaxant for surgical interventions. What drug was ordered?

- A. Dithylinum
- B. Nicotine
- C. Atropine sulfate
- D. Methacin
- E. Hygronium