

MINISTRY OF PUBLIC HEALTH OF UKRAINE

Department of human resources policy, education and science

Testing Board

Student ID							

Last name							

Variant _____

Test items for licensing examination

Krok 2

PHARMACY



General Instruction

Every one of these numbered questions or unfinished statements in this chapter corresponds to answers or statements endings. Choose the answer (finished statements) that fits best and fill in the circle with the corresponding Latin letter on the answer sheet.

Authors of items: Afanasenko O.V., Afonina T.V., Andrieieva I.V., Baihush Yu.V., Barnatovych S.V., Belehai R.I., Benzel L.V., Bezruk T.O., Bieliaieva O.I., Bilous S.B., Bohutska O.Ie., Bushuieva I.V., Chornous V.O., Darmohrai R.Ye., Dasiuk Ye.V., Demchuk M.B., Denysenko O.M., Donets D.M., Dorokhova L.P., Drachuk V.M., Dyba L.D., Dzviniatska O.F., Fediak I.O., Hadiak I.V., Haidai O.D., Haina Zh.M., Hala L.O., Harna N.V., Hasiuk H.D., Herush O.V., Hladkova L.M., Hladyshev V.V., Hlushachenko O.O., Hnidets V.I., Holod A.S., Holopykho L.I., Holovkin V.O., Horobynska S.M., Hrozav A.M., Hrytsenko V.I., Hrytsyk L.M., Ivanchuk I.M., Kaluhina S.M., Klebanskyi Ye.O., Klymenko V.I., Knysh Ye.H., Kokhanov I.V., Kolisnyk O.V., Kornieva L.O., Korobko D.B., Korovenkova O.M., Kovalchuk I.V., Kovalenko S.I., Kozytska K.I., Kraidashenko O.V., Kraievska Ye.V., Kriuchkova T.M., Kryvoshei O.V., Kucherenko N.V., Kuldyrkaieva K.V., Leonova S.H., Levchenko I.O., Levyska O.R., Liapunova O.O., Lisniak O.I., Livenko A.I., Lozhychevska T.V., Makukh Kh.I., Marchyshyn S.M., Markiv I.M., Mazulin O.V., Mishyna L.H., Mosula L.M., Nazarkina, Nemiatykh O.D., Ohar, Ohdansky K.M., Orlova O.A., Osiychuk O.V., Otrishko I.A., Palamar A.O., Pochtar L.Yu., Podkolzina, Poliak O.B., Popova N.V., Popovych V.P., Potapova T.M., Protsenko T.M., Rovinsky O.O., Rybachuk V.D., Rybak O.T., Rykhlytska K. V., Samborsky O. S., Samohalska O. Ie., Sasko O. V., Shanaida M. I., Sikoryn U. B., Sincha N.I., Skoryna D.Yu., Skrylova N.M., Sokolova L.V., Sterioni I.V., Svirska S.P., Syniak, Sych I.A., Taller O.Yu., Tereshchuk S.I., Ternynko I.I., Teterych, Tkachenko N.O., Tkachenko V.H., Trokhymchuk V.V., Tykhonov O.I., Tykhonova S.O., Tymchenko A.Yu., Vashchenko K.F., Vodoslavsky V.M., Vyshnevska L.I., Yehorov I.A., Yeromina Z.H., Zaruma L.Ye., Zeleniuk V.H., Zhadko S.V., Zub L.O., Zubchenko T.M. and Committees of professional expertise.

Item reviewers: Burian H.O., Darmograi R.Ye., Hala L.O., Holopykho L.I., Hrytsenko B.I., Khokhlenkova N.V., Korobko D.B., Koval A.Ya., Kovalska N.P., Lenchyk L.V., Lesyk R.B., Levyska O.R., Marchyshyn S.M., Moriak Z.B., Nazarkina B.M., Nemiatykh O.D., Otrishko I.A., Pukhalska I.O., Samohalska O.Ye., Unhurian L.M., Vashchenko K.F., Voitenko L.P., Zhadko S.V.

The book includes test items for use at licensing integrated examination “Krok 2 Pharmacy” and further use in teaching.

The book has been developed for students of pharmaceutical faculties and academic staff of higher medical educational establishments.

Approved by Ministry of Public Health of Ukraine as examination and teaching publication based on expert conclusions (Orders of MPH of Ukraine of 14.08.1998 №251, of 27.12.1999 №303, of 16.10.2002 №374, of 16.04.2003 № 239, of 29.05.2003 №233).

1. A pharmacy prepares drugs by individual prescriptions. How often should the floors be mopped down in the prescription department?

- A. Once in a shift
- B. Once in a week
- C. Once every 10 days
- D. Once every 5 days
- E. Once every 3 days

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

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

3. A pharmaceutical company focuses on selling a diverse range of products covering different customer groups and regions. What kind of organizational structure is typical for such company?

- A. Divisional
- B. Bureaucratic
- C. Functional
- D. Centralized
- E. Decentralized

4. Vitali-Morin's reaction is used to identify tropane alkaloids in herbal raw material. Name the alkaloid that can be detected by means of this specific reaction:

- A. Scopolamine
- B. Codeine
- C. Morphine
- D. Platyphyllin
- E. Papaverine

5. Standard herbal material of lily-of-the-valley is obtained by drying it at a temperature of 50-60°C 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

6. 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

7. A pharmacist has made a topical solution with lipophilic vehicle. Specify the substance that produces such a type of solution:

- A. Menthol
- B. Novocaine hydrochloride
- C. Dermatol (bismuth subgallate)
- D. Starch
- E. Sulfur

8. 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 committee (LDC)
- B. Trade union committee
- C. Highest management bodies of pharmaceutical service at the regional level
- D. The Ministry of Public Health of Ukraine
- E. Commercial court

9. Drugs derived from *Rauvolfia serpentina* roots are used in hypertension treatment. Authenticity of *Rauvolfia serpentina* herbal raw material can be confirmed by its content of:

- A. Reserpine
- B. Atropine
- C. Hyoscyamine
- D. Vinblastine
- E. Adonitoxin

10. 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

11. What concept can be described as "...an area of exchange with its characteristic system of economic relations between goods manufacturers and consumers"?

- A. Market
- B. Marketing
- C. Sales
- D. Agreement
- E. Management

12. To prepare a suspension a medicinal substance should be triturated with a small amount of liquid. Specify the optimal amount of liquid for trituration of 10 g of zinc oxide according to the Deriagin's rule:

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

13. 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

14. Various types of dryers can be used for granule dehumidification. Specify the type of "СП-30" dryer:

- A. Fluidized bed dryer
- B. Freeze dryer
- C. Infrared dryer
- D. Silica gel dryer
- E. Forced air dryer

15. Ampoule workshop of a factory produces 5% oil solution of tocopherol acetate for injections. What method of filling the ampoules is optimal in this case?

- A. Syringe
- B. Vacuum
- C. Devaporation
- D. Syringe and vacuum
- E. Syringe and devaporation

16. An analyst of a chemical laboratory had received a glucose substance for analysis. To check its quality he used a polarimeter. The analyst measured:

- A. Angle of rotation
- B. Refractive index
- C. Optical density
- D. Melting point
- E. Specific gravity

17. A doctor has prescribed pessaries of unspecified mass. What mass should be chosen when pessaries are being prepared in a pharmacy?

- A. 4,0
- B. 3,0
- C. 1,5
- D. 0,5
- E. 6,0

18. A pharmacist has made an injection solution that contains a salt produced by reaction of a strong base with a weak acid. Specify the necessary stabilizer:

- A. Sodium hydrochloride
- B. Sodium sulfate
- C. Hydrochloric acid
- D. Ascorbic acid
- E. Cysteine

19. Collective labour agreement is concluded by a trade union committee with the business owner on behalf of the workforce. Any collective agreement is worked out in written form. Which article of the Labour Code regulates the duration of the collective agreement?

- A. 17
- B. 36
- C. 38
- D. 40
- E. 41

20. A pharmacist prepares cocoa butter-based round vaginal suppositories with less than 5% of citric acid. Specify the most rational approach to introduction of the active ingredient into the vehicle:

- A. Dissolve in minimal quantity of purified water
- B. Dissolve in Dimexid (Dimethylsulfoxide)
- C. Dissolve in molten cocoa butter
- D. Dissolve in vaseline oil
- E. Dissolve in alcohol

21. A pharmacist prepares an injection solution 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

22. A pharmacist has made a drug by the prescription:

Rp.: Sol. Protargoli 0,31,0

D.S. For irrigation.

Specify the optimal technology of preparation:

- A. Grind protargol in the mortar with glycerine, add water
- B. Dissolve glycerine in the water, add protargol
- C. Dissolve protargol in the water, add glycerine
- D. Measure out protargol into the vial, dissolve it in the water, add glycerine
- E. Measure out subsequently glycerine, water, and protargol into the vial

23. Paracetamol substance has been sent for analysis. Reaction with the solution of iron (III) chloride resulted in the blue-violet coloring. This indicates the presence of:

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

24. 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 identifiers
- E. Microscope

25. An analytical laboratory has received a procaine hydrochloride substance for analysis. According to the State Pharmacopoeia of Ukraine limit content of heavy metals should be determined with the following reagent:

- A. Thioacetamide
- B. Methoxyphenylacetic acid
- C. Hypophosphite
- D. Aminomethyl alizarin acetic acid
- E. Sulfomolybdenum

26. Preparations of sorrel roots can have both a laxative and astringent effect. This is due to the presence of the following biologically active substances:

- A. Anthracene derivatives and tannins
- B. Flavonoids and essential oils
- C. Essential and fatty oils
- D. Coumarins and phenol glycosides
- E. Iridoids and vitamins

27. Which of the pharmacy departments is responsible for checking the quantity and quality of received goods, their storage and dispensing to other departments?

- A. Inventory department
- B. Compounding and production department
- C. Department of finished dosage forms
- D. Department of over-the-counter drugs
- E. Department of curative cosmetics

28. 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

29. A set of values, traditions, behavioral norms, and views inherent to an organisation characterizes its following feature:

- A. Culture
- B. Success
- C. Profitability
- D. Capitalization level
- E. Self-development capability

30. A patient needs the pharmacy to prepare him a camphor ointment. What

concentration of camphor should be in the ointment according to the regulatory documents?

- A. 10%
- B. 20%
- C. 15%
- D. 5%
- E. 1%

31. A manufacturing company initiates changes to the package insert of a drug, which are aimed at limitation of its use. What type of marketing is used by the company in this case?

- A. Counteractive
- B. Conversion
- C. Remarketing
- D. Synchromarketing
- E. Stimulating

32. For better coverage of various markets the *Lubnyfarm* company sells a portion of its production through its chain of pharmacies, another portion is being sold through distributors, and the third - through pharmacies of another owners. What marketing system of distribution is used by this company?

- A. Multichannel
- B. Horizontal
- C. Corporate
- D. Contractual
- E. Administered

33. One of the most important market characteristics is a goods economic trend. What economic trend can be characterized by relative stability of high prices and the highest activity of manufacturers and customers?

- A. High (stable)
- B. Subsiding
- C. Downward
- D. Sluggish
- E. Low

34. A pharmacy prepares 10% sodium chloride injection solution. What sterilization would be optimal in this case?

- A. Autoclave chamber with high-pressure saturated steam
- B. Sterile filtration through membrane
- C. Gas sterilization
- D. Dry-heat sterilization
- E. Irradiation sterilization

35. Prior to making a sodium chloride isotonic solution a pharmacist baked the powder in a dry heat box. What substances are removed by this operation?

- A. Pyrogenic substances
- B. Redox substances
- C. Sulfates
- D. Chlorides
- E. Moisture

36. A pharmacy has received a prescription for tincture. What herbal raw material can be used to make this dosage form?

- A. Valerian rootstock
- B. Rhubarb roots
- C. Oak bark
- D. Arrow-wood bark
- E. Buckthorn bark

37. A certain type of herbal raw material is being collected in spring during sap flow. Specify this material:

- A. Bark
- B. Flowers
- C. Buds
- D. Roots
- E. Infructescences

38. A medical product reaches its final consumer according to the following scheme: manufacturer → wholesale house → pharmacy → final consumer. Determine the level of the distribution channel:

- A. Two-level channel
- B. One-level channel
- C. Three-level channel
- D. Zero-level channel
- E. Four-level channel

39. A pharmacist has prepared a drug by the prescription:

Rp.: Olei Helianthi 7,4

Solutionis Ammonii caustici 2,5 ml

Acidi oleinici 0,1

M. D. S.: Ammoniac liniment. For infraction.

Specify the type of disperse system:

- A. Liniment-emulsion
- B. Combined liniment
- C. Liniment-solution
- D. Liniment-suspension
- E. Extractive liniment

40. A pharmacist has 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

41. Optical rotation angle of substances is determined under the temperature of 20°C, in 1-decimeter-thick layer, with wavelength of sodium spectrum D-lines ($\lambda = 589,3$ nm), and is calculated with reference to a solution containing 1 g of the substance per ml. It is called:

- A. Specific optical rotation
- B. Optical density
- C. Refractive index
- D. Relative density
- E. Distribution coefficient

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

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

43. Specify the control methods aimed at detecting mechanical impurities in parenteral solutions:

- A. Visual optical
- B. Limulus test
- C. Amperometric
- D. Gravitational
- E. NMR and UV-visible spectroscopy

44. Adonis-derived drugs are popular cardiogenic agents. The stock of adonis herbal raw material is assessed by the method of:

- A. Permanent quadrates
- B. Model specimen
- C. Projective cover
- D. Geodesic
- E. By eye

45. 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

46. An analytical chemist performs the qualitative assessment of mercury (II) chloride. What method is recommended by the State Pharmacopoeia of Ukraine for quantitative assessment in this case?

- A. Complexometric titration
- B. Nitritometric titration
- C. Bromometry
- D. Alkalimetry
- E. Acidimetry

47. The market can be characterized by the following conditions: there are many sellers and buyers, who have no influence over current prices; similar and interchangeable competing goods are available; there are no price limits. What type of market is it?

- A. Pure competition
- B. Monopolistic competition
- C. Oligopoly
- D. Pure monopoly
- E. Economic planning

48. Specify the indicator that measures the total contribution of various solutes to the osmotic pressure of the solution:

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

49. Dosage precision during tablet making mainly depends on the following technological property of tablet mass:

- A. Flowability
- B. Relative density
- C. Compression ratio
- D. Compressibility
- E. Lyophilic property

50. 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

51. Manufacturer's marketing department detected negative demand for a certain goods. What would be the marketing task? What type of marketing should be applied?

- A. Demand making, conversion marketing
- B. Demand leveling, synchromarketing
- C. Demand increase, remarketing
- D. Demand decrease, demarketing
- E. Demand stimulation, promotional marketing

52. To confirm the presence of sulfat ions in the medicinal preparation of magnesium sulfate an analytical chemist of a pharmacy uses the following solutions:

- A. Barium chloride and hydrochloric acid
- B. Ammonium chloride and ammonium hydrate
- C. Silver nitrate and nitric acid
- D. Benzenesulfonic acid
- E. Diphenylamine

53. Natural persons registered as small business entities with simplified taxation scheme are subject to limitation of the annual amount of sales proceeds. Specify the proceeds limit:

- A. 500 000 UAH
- B. 750 000 UAH
- C. 100 000 UAH
- D. 3 000 000 UAH
- E. 5 000 000 UAH

54. Quality of dried extracts is assessed according to several criteria. Specify the highest acceptable amount of moisture in dried extracts according to the State Pharmacopoeia of Ukraine:

- A. 5%
- B. 25%
- C. 20%
- D. 75%
- E. 95%

55. When preparing dermatological ointments the following substance should be introduced by suspending:

- A. Xeroform
- B. Camphor
- C. Menthol
- D. Protargol (silver proteinate)
- E. Ephedrine hydrochloride

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

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

57. An analytical chemist analyses the substance of racemic menthol according to the State Pharmacopoeia of Ukraine. To identify the drug and determine its purity he uses optical rotation that should occur within the interval:

- A. From $+0, 2^\circ$ to $-0, 2^\circ$
- B. From -48° to -51°
- C. From $+50^\circ$ to $+56^\circ$
- D. From $+10^\circ$ to $+13^\circ$
- E. From -102° to -105°

58. Codeine is used as a cough-depressant. What herbal raw material contains this alkaloid?

- A. Pods of opium poppy
- B. Grass of plume poppy
- C. Celandine grass
- D. Grass of common periwinkle
- E. Tea leaves

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

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

60. An analytical chemist can quantitatively determine the thiamine bromide content in powders by means of:

- A. Alkalimetry
- B. Nitritometric titration
- C. Bromometry
- D. Permanganatometry
- E. Complexometric titration

61. What technology should be chosen

by a pharmacist to make a liquid dosage form, if it contains calcium gluconate?

- A. Dissolve it in hot solvent or heat it up to full dissolution
- B. First grind it into powder when it is dry or with small amount of solvent added
- C. Dissolve in the water free of redox substances
- D. Add equal amount of sodium chloride
- E. Dissolve in alkaline medium

62. Tyndallization is used at a pharmaceutical factory as one of sterilization methods for thermolabile substances. What is the essence of this method?

- A. Triple heating of solution to 40-60°C with 24-hour-long intervals in between for thermostating
- B. Autoclaving at 119-121°C with pressure at 1,0-1,1 atm
- C. Sterilization with flowing steam at 100°C
- D. Sterilization with dry heat at 180-200°C for a lengthy period of time
- E. Sterilization with high-frequency and microwave frequency current

63. What final document is used for the preparation of the report on the discrepancies revealed in the course of inventory at the pharmacy?

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

64. A teenager with hyporexia has been recommended to drink medicinal herbal tea of the following composition: *Herba Absinthii*, *Herba Millefolii*. Specify the characteristic microscopic features of *Artemisia absinthium*, which indicate its presence in the herb mixture:

- A. T-shaped hairs along the leaf edge
- B. Simple and capitate hairs
- C. Branched, simple and ciliated hairs
- D. Retor-shaped hairs
- E. Branched and capitate hairs

65. A patient suffering from bronchial asthma was diagnosed with essential hypertension. What antihypertensive drug is contraindicated for this patient?

- A. Propranolol
- B. Captopril
- C. Amlodipine
- D. Hypothiazid (Hydrochlorothiazide)
- E. Verapamil

66. In the process of isoniazid identification a pharmacy analyst thoroughly boiled the substance with 2,4-dinitrochlorobenzene. The substance turned yellow. After adding alkaline solution the substance turned first violet and then brownish-red. As the result of this reaction the following aldehyde derivative is produced:

- A. Glutaconic
- B. Gluconic
- C. Glutamic
- D. Glyoxylic
- E. Hexanic

67. Indometacine is a nonsteroidal antiinflammatory drug. A condensed heterocyclic system is contained within the structure of this drug. What cycles compose the system?

- A. Pyrrole and benzene
- B. Benzene and thiazole
- C. Benzene and pyridine
- D. Two 4-oxycoumarin residues
- E. Pyrimidine and imidazole

68. 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

69. A process dealing with drawing the documents, their processing, circulation and storage is called records management. If all documents circulate through one organization center, - the Office Desk, - then such system of records management is called:

- A. Centralized
- B. Decentralized
- C. Mixed
- D. Referent
- E. Specialized

70. 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*

71. Birch buds are used as a diuretic. Quality of the herbal raw material is determined by its content of:

- A. Essential oil
- B. Vitamins
- C. Lipids
- D. Iridoids
- E. Saponins

72. A pharmaceutical manufacturer sets the price for a drug basing on its prime cost with premium. What model of pricing is it?

- A. Cost-based
- B. Competitive
- C. Demand-based
- D. Supply-based
- E. Breakeven

73. At the end of each month a pharmacy accountant draws up a balance. What indicator characterizes liabilities of a pharmaceutical company?

- A. Equity capital
- B. Circulating assets
- C. Reserves and expenses
- D. Work-in-process inventory
- E. Accounts receivable

74. What method is recommended by the State Pharmacopoeia of Ukraine for quantitative determination of potassium chloride substance that is used in treatment of hypokalemia?

- A. Argentometry
- B. Bromatometry
- C. Iodometry
- D. Cerimetry
- E. Polarimetry

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

- A. Authorized representative
- B. Supplier pharmacist
- C. Dispensing chemist
- D. Pharmacy head manager
- E. Analyst

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

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

77. Infuser apparatus is used by a pharmacy to prepare:

- A. Infusions and decoctions
- B. Infusion solutions
- C. Suspensions
- D. Emulsions
- E. Ointments

78. Lately the *Phytopharm* pharmaceutical company has been forced to decrease its production volume and range of goods. Not only does the company head manager demonstrate no managerial abilities, but he also appears to be completely disinterested in the running of the business and executes no control over it. Determine the leadership type of the head manager in this case:

- A. Liberal
- B. Democratic
- C. Directive
- D. Authoritarian
- E. Autocratic

79. 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

80. The following substance is used as an extractant in production of liquid extracts:

- A. Ethanol
- B. Acetone
- C. Dichloroethane
- D. Chloroform
- E. Glycerine

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

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

82. 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

83. Simultaneous application 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. -

84. To treat iron-deficiency anemia the following drug is usually prescribed:

- A. Ferroplex
- B. Furagin (Furazidinum)
- C. Corticosteroids
- D. Heparin
- E. Vicasol (Menadione)

85. A 70-year-old patient with stenocardia claims that the pharmacy had sold him a drug that relieved an attack of stenocardia but instead caused an acute bursting headache. What anti-hypertensive drug is this side-effect typical of?

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

86. Presence of nitrate radical in metronidazole structure can be confirmed by reduction of nitrate radical to amino group with production of:

- A. Azo dye
- B. Indophenol
- C. Thiochrome
- D. Iodoform
- E. Murexide

87. Xycaine quantitative content can be determined by means of argentometry (back titration). What indicator is required by this method?

- A. Iron (III) ammonium sulphate
- B. Sodium eosinate
- C. Bromphenol blue
- D. Starch
- E. Potassium chromate

88. A dispensing chemist with calculated length of service of 7 years has fallen ill. What percent of the sum stated in her sick list would she receive?

- A. 80%
- B. 100%
- C. 70%
- D. 60%
- E. 50%

89. 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

90. A pharmacy has received goods from a warehouse, which were delivered by the warehouse transport. Therefore, goods receipt requires the following accompanying document:

- A. Motor waybill
- B. Financial statement of the supplier
- C. Contract of delivery
- D. Specifications to the contract of delivery
- E. All of the listed

91. Specialists of a pharmaceutical enterprise confirm the identity of *Cassia acutifolia* herbal raw material. During reaction with alkali it developed cherry-red coloring. What substances were identified?

- A. Anthraquinones
- B. Tannins
- C. Alkaloids
- D. Glycosides
- E. Iridoids

92. Number of mediators that pharmaceutical goods pass on their way from manufacturer to consumer is called:

- A. Length of distribution channel
- B. Level of distribution channel
- C. Width of distribution channel
- D. Volume of distribution channel
- E. -

93. 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*

94. The main method of quantitative determination of corticosteroids is:

- A. Spectrophotometry
- B. Potentiometry
- C. Cerimetry
- D. Argentometry
- E. Acidimetry

95. The thyme grass is used for the production of herbal medical products for the treatment of respiratory tract infections. Under the State Pharmacopoeia of Ukraine 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

96. A pharmacy offers to its customers a chance to measure their blood pressure. What type of goods is it?

- A. Service
- B. Convenience goods
- C. Nondurable goods
- D. Specialty goods
- E. Unsought goods

97. Several independent mediators work in resale of medical equipment. What group of mediators includes persons and legal entities that specialize in sales of durable goods that require considerable after-sales service?

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

98. Propellants are used in aerosols production. Specify the function of propellants:

- A. Create pressure in the package
- B. Action prolongation
- C. Stabilization
- D. Emulsification
- E. Dispersion

99. The chemical name of 2,2-(diphenylmethoxy)-N,N-dimethylethanamine hydrochloride corresponds with the following medicinal substance:

- A. Diphenhydramine hydrochloride
- B. Ethylmorphine hydrochloride
- C. Lidocaine hydrochloride
- D. Ciprofloxacin hydrochloride
- E. Papaverine hydrochloride

100. An analytical chemist should use the following solution to identify sodium-containing substances:

- A. Potassium pyroantimonate
- B. Potassium permanganate
- C. Sodium citrate
- D. Potassium carbonate
- E. Barium hydroxide

101. Calcium gluconate is being tested for presence of admixtures of saccharose and reducing sugars with copper-tartrate reagent. If these admixtures are present the substance colors:

- A. Red
- B. Blue
- C. Green
- D. Turquoise
- E. White

102. A 45-year-old man has been taking long-acting nitrates twice a day for a year. Currently the decrease in effectiveness of the pharmacotherapy is being observed. What side-effect can be suspected in the first place?

- A. Development of nitrate tolerance
- B. Progressing ischemic heart disease
- C. Progressing coronary atherosclerosis
- D. Myocardial infarction
- E. Impairment of coronary circulation

103. A 43-year-old patient was delivered to an admission room with renal colic attack. What group of drugs would be the most effective during the attack?

- A. Antispasmodics
- B. Hepatoprotectors
- C. Antacids
- D. Antibiotics
- E. Cholagogues

104. What antibiotic has beta-lactam cycle in its structure?

- A. Benzylpenicillin potassium salt
- B. Doxycycline hyclate
- C. Chloramphenicol
- D. Streptomycin sulfate
- E. Lincomycin hydrochloride

105. Incoming medicines inspection is performed by an authorized employee. What is **NOT** a part of the responsibilities of this person?

- A. To draw up orders for medicines and medical products, to conclude sales contracts
- B. To draw up conclusions regarding inspection of incoming medicines
- C. To keep a roster of incoming medicines
- D. To check the pharmacy stock for low-quality or fake medicines
- E. -

106. A pharmacist has prepared a liquid mixture. What component was added last into the vial?

- A. Tincture of valerian
- B. Purified water
- C. Potassium bromide
- D. 20% sodium bromide solution
- E. Simple syrup

107. What hypotensive drug is an agent of choice for the patients suffering from arterial hypertension with concomitant type I diabetes mellitus?

- A. Lisinopril
- B. Hydrochlorothiazide
- C. Atenolol
- D. Labetalol
- E. Carvedilol

108. Snake venom-based drugs are widely applied in treatment of locomotor apparatus diseases. Main components of these venoms are:

- A. Toxic proteins
- B. Alkaloids
- C. Cardiac glycosides
- D. Glucosinolates
- E. Phenol-alcohols

109. A 25-year-old man is diagnosed with acute pyelonephritis of moderate severity. What drugs should be prescribed for etiologic therapy?

- A. Antimicrobial agents
- B. Glucocorticoids
- C. Nonsteroidal antiinflammatory drugs
- D. Anticholinesterase drugs
- E. Antiarrhythmic drugs

110. The chemical name of 2-benzyl-1H-benzimidazole hydrochloride corresponds with the following medicinal substance:

- A. Dibazol (Bendazolium)
- B. Omeprazole
- C. Indometacin
- D. Phenazepam
- E. Vicasol (Menadione)

111. Pharmacy premises can be divided into service rooms and workrooms. Name the workroom for storage of medical products:

- A. Material storage room
- B. Shop floor
- C. Washing room
- D. Aseptic block
- E. Distillation room

112. Identification of potassium iodide requires performing an oxidation reaction in acid medium, which produces free iodine that colors chloroform layer. What reagent is used for such a reaction?

- A. Sodium nitrite
- B. Silver nitrate
- C. Barium chloride
- D. Sodium carbonate
- E. Ammonium oxalate

113. An analytical chemist determines potassium ions admixture in a medicinal substance with sodium tetraphenylborate according to the State Pharmacopoeia of Ukraine. What analytical effect would confirm the presence of this admixture?

- A. White opalescence
- B. Yellow coloring
- C. Blue coloring
- D. Pink coloring
- E. Brown coloring

114. The cholagogue derived from *Rosa canina* fruit is used in treatment of liver and gallbladder diseases. Name this drug:

- A. Cholosas
- B. Chophytol
- C. Phytolyt
- D. Allochol
- E. Altan

115. According to the rules in force, workrooms should regularly undergo humid disinfection. How often should the floors be washed?

- A. No less than once in a shift
- B. No less than twice in a week
- C. No less than once in a week
- D. No less than thrice in a week
- E. No less than twice in a month

116. Senna (cassia) foliage contains anthracene derivatives. Their presence can be confirmed by qualitative reaction with:

- A. Alkali
- B. Molisch's reagent
- C. Iron ammonium alum
- D. Iron (II) sulfate
- E. Fehling's reagent

117. A private pharmacy has received a supply of a drug with 2,3-dihydro-2-methyl-1,4-naphthoquinone-2-sulfonate sodium as an active ingredient. Name this drug:

- A. Vicasol (Menadione)
- B. Rutin
- C. Riboflavin
- D. Ergocalciferol
- E. Cocarboxylase hydrochloride

118. A 53-year-old woman suffers from ischemic heart disease and angina pectoris. What drug can be used to stop angina pectoris attacks?

- A. Nitroglycerine
- B. Drotaverine hydrochloride
- C. Propranolol
- D. Dipyridamol
- E. Acetylsalicylic acid

119. A patient is 20 years old. After she was stung by a bee the patient developed Quincke's disease; rash in the form of blisters and papulae appeared on her torso. First aid in this case should start with administering the following drug:

- A. Prednisolone
- B. Penicillin
- C. Fresh frozen plasma
- D. Rheopolyglukin (Dextran)
- E. Haemodes

120. What department of a wholesale firm is tasked with search for and analysis of potential suppliers' commercial offers, as well as concluding supply contracts and supervision of contract fulfillment?

- A. Supply department
- B. Marketing department
- C. Shipping department
- D. Stores development
- E. Finance department

121. To prepare eyedrops with antibiotic a dispensing chemist has been using flowing steam sterilization under 100°C for 30 minutes. What antibiotic allows for such sterilization?

- A. Levomycetin (Chloramphenicol)
- B. Sodium benzylpenicillin
- C. Streptomycin sulfate
- D. Biomycin
- E. Erythromycin

122. A certain drug explodes when heated to 180°C or upon impact and, therefore, must be handled carefully during receipt and storage. This drug is:

- A. Nitroglycerine solution
- B. Activated carbon
- C. Alcoholic iodine solution
- D. Barium chloride
- E. Calcium chloride

123. Gum is a polysaccharide substance that contains calcium and magnesium salts of uronic acids and neutral monosaccharides. By solubility arabin, bassorin, and cerasin derivatives can be distinguished. What gum is insoluble in cold water?

- A. Cherry
- B. Acacia
- C. Tragacanth
- D. Apricot
- E. Plum

124. A pharmacy prepares a drug that contains a high-molecular compound with unlimited swelling ability. Name this material:

- A. Pepsin
- B. Methylcellulose
- C. Gelatine
- D. Starch
- E. Protargol

125. The Financial Report of a pharmacy for the first quarter of 20XX contains the following entries: goods turnover - 45 000 UAH, production cost of products sold - 30 000 UAH, turnover costs - 10 000 UAH. Determine the income:

- A. 5 000 UAH
- B. 30 000 UAH
- C. 40 000 UAH
- D. 15 000 UAH
- E. 35 000 UAH

126. In Ukraine the auditor position eligibility requires the candidate to be a Ukrainian citizen and have the qualification certificate for work as an auditor within the Ukraine's territory. The certificate is effective for:

- A. 5 years
- B. 3 years
- C. 2 years
- D. 1 years
- E. Indefinitely

127. A man with gastric ulcer is prescribed anti-*Helicobacter pylori* therapy. On the 3rd day the patient developed black coloring of feces. What had caused such changes?

- A. Bismuth subcitrate
- B. Omeprazole
- C. Metronidazole
- D. Tetracycline
- E. Tinidazole

128. A certain drug can be quantitatively assessed by means of direct alkali-metry in glycerine, mannitol, or other polyhydric alcohol medium. This drug is:

- A. Boric acid
- B. Benzoic acid
- C. Salicylic acid
- D. Glutaminic acid
- E. Acetylsalicylic acid

129. Hydrogen sulfide is being produced in the process of dry pyrolysis of a certain sulfanilamide drug. Name this drug:

- A. Norsulfazole
- B. Streptocide
- C. Soluble streptocide
- D. Sulfadimezinum (Sulfadimine)
- E. Sulfacil sodium

130. 1,8-cineole is a bactericidal component of essential oil. Specify the medicinal herb that is grown in Ukraine and contains 1,8-cineole in its essential oil:

- A. *Salvia officinalis*
- B. *Eucalyptus globulus*
- C. *Juniperus communis*
- D. *Inula helenium*
- E. *Origanum vulgare*

131. The *Dobropharma* pharmacy manager makes plans for standard stock of various groups of goods, based on their purpose. Convenience goods belong to the following group:

- A. Current demand
- B. Specific demand
- C. Prior delivery
- D. Seasonal accumulation
- E. Single delivery

132. Accounts receivable develop in the process of pharmaceutical company work. Specify where in the balance book they are recorded:

- A. Assets
- B. Liabilities
- C. Debit
- D. Credit
- E. Account

133. A pharmacy has received a prescription for colloid solution. Name this solution:

- A. Collargol solution
- B. Sodium chloride solution
- C. Nonaqueous solution
- D. 5% glucose solution
- E. Burow's solution

134. A technological controller uses Marquis reagent to identify the substance of acetylsalicylic acid after acid hydrolysis. Positive effect of the reaction would be indicated by the following coloring:

- A. Pink
- B. Blue
- C. Yellow
- D. Green
- E. Violet

135. A 3-year-old child is intolerant to paracetamol. What antipyretic drug can be taken instead?

- A. Ibuprofen
- B. Acetylsalicylic acid
- C. Nimesulide
- D. Naproxen
- E. Diclofenac sodium

136. A patient with angina pectoris takes long-acting nitrates. Consult him what side-effect is the most common for these drugs:

- A. Headache
- B. Nausea
- C. Vomiting
- D. Diarrhea
- E. Constipation

137. Essential oil of a certain plant contains up to 80% of cineole. Specify the herbal raw material that is collected from this plant:

- A. *Folia Eucalypti*
- B. *Folia Betulae*
- C. *Folia Menthae piperitae*
- D. *Folia Melissa*
- E. *Folia Absinthii*

138. According to the State Pharmacopoeia of Ukraine quantitative content of salicylic acid is to be determined by means of:

- A. Alkalimetry
- B. Nitritometric titration
- C. Complexometric titration
- D. Acidimetry
- E. Argentometry

139. A pharmacist prepares a chamomile flowers infusion. Specify the proportion of raw material to infusion:

- A. 1:10
- B. 1:30
- C. 1:50
- D. 1:400
- E. 1:20

140. 50 ml of injection solution has been made in a pharmacy. Specify the process of solution sterilization:

- A. 120°C - 8 minutes
- B. 180°C - 30 minutes
- C. 160°C - 15 minutes
- D. 140°C - 12 minutes
- E. 110°C - 15 minutes

141. An important indicator of business activity is profitability of a business. Specify the indicators that can be used to measure the profitability:

- A. Profit/turnover
- B. Turnover/production cost
- C. Turnover/income
- D. Income/turnover
- E. Liquidity/solvency

142. Genetically induced adverse reaction to a certain drug is caused by various enzyme defects. Name this reaction:

- A. Idiosyncrasy
- B. Withdrawal syndrome
- C. Steal syndrome
- D. Rebound effect
- E. Dysbiosis

143. Difference between the retail price of products sold and the margin determines:

- A. Production cost
- B. Markup
- C. Margin
- D. Income
- E. Breakeven

144. A pharmaceutical company produces essential oils via a method that consists of essential oil transfer into gas phase followed by its absorption with fats and then its extraction with alcohol. Name this method:

- A. Enfleurage
- B. Compression
- C. Extraction
- D. Hydrodistillation
- E. Dynamic sorption

145. To identify cardiac glycosides there are usually three groups of color reactions being performed: for steroid nucleus, for lactonic ring, and for carbohydrate component. Specify the reaction for identification of butenolide ring:

- A. Legal's test
- B. Stahl's reaction
- C. Mayer's test
- D. Reaction of sublimation
- E. Dragendorff's test

146. A 43-year-old woman has come to a pharmacy with complaints of sharp headache in the occipital area, palpitations, "visual snow" in her eyes, nausea; her BP is 180/110 mm Hg. These symptoms correspond with:

- A. Hypertensive crisis
- B. Migraine attack
- C. Exertional angina pectoris attack
- D. Cervical osteochondrosis
- E. Acute conjunctivitis

147. Medicinal substance had been received for chemical analysis. Biuret test was performed for identification. Name this substance:

- A. Bromisoval
- B. Iodoform
- C. Benzoic acid
- D. Dipyrone (Metamizole)
- E. Diphenhydramine

148. A patient, who has undergone treatment for community-acquired pneumonia, complains of hearing impairment. What antibacterial drug could result in such a side-effect?

- A. Gentamicin
- B. Amoxicillin/clavulanate
- C. Cefazolin
- D. Ciprofloxacin
- E. Clarithromycin

149. A 36-year-old woman with herpetic rash on her lips has come to a pharmacy. Recommend her a drug for topical treatment:

- A. Acyclovir
- B. Fluconazole
- C. Levofloxacin
- D. Metronidazole
- E. Amikacin

150. A pharmaceutical company produces mint tincture. Technological process of making this tincture requires it to be made:

- A. With 90% alcohol in 1:20 proportion
- B. With 70% alcohol in 1:5 proportion
- C. With 70% alcohol in 1:10 proportion
- D. With 48% alcohol in 1:2 proportion
- E. With 70% alcohol in 1:15 proportion

151. Several species of *Polygonum* genus are used in medicine. One of these species has rootstocks rich in tanning agents, which are used to treat diarrhea. Name this species:

- A. *Polygonum bistorta*
- B. *Polygonum hydropiper*
- C. *Polygonum persicaria*
- D. *Polygonum aviculare*
- E. *Polygonum alpinum*

152. A 65-year-old man with community-acquired pneumonia was prescribed antibiotic agent amikacin. It should be kept in mind, that amikacin has the following side-effect:

- A. Ototoxicity
- B. Red coloring of urine
- C. Vomiting
- D. Increased blood pressure
- E. Decreased blood pressure

153. Considering thermolability of most animal-derived injection preparations, they are sterilized by means of:

- A. Filtration through membrane
- B. Addition of buffer solutions
- C. High frequency current
- D. In autoclave chamber with high-pressure saturated steam
- E. Ultrasound

154. Sodium and potassium oxides are introduced into the ampoule glass to:

- A. Decrease its melting point
- B. Increase its mechanical stability
- C. Increase its chemical stability
- D. Increase its dimming ability
- E. Increase its thermal stability

155. Hierarchic structure of the *Agapetus* pharmacy management foresees that authority is being passed on directly from the pharmacy manager to the employees. Specify this type of authority:

- A. Line
- B. Functional
- C. Line and staff
- D. Divisional
- E. Matrix

156. Several cholesterol gallstones are detected in the gallbladder of a woman. Choose the drug to dissolve and excrete the stones:

- A. Ursodeoxycholic acid
- B. Papaverine
- C. Domperidone
- D. Loperamide
- E. Platyphyllin

157. What indicator is used in iodometry for quantitative determination of caffeine in caffeine and sodium benzoate?

- A. Starch
- B. Potassium chromate
- C. Eriochrome black
- D. Methyl orange
- E. Bromthymol blue

158. An accountable person has received

a sum of money from the pharmacy cash desk to buy a calculator. What document records the cash flow in such a transaction?

- A. Cash expense order
- B. Cash income order
- C. Invoice
- D. Receipt
- E. Remains unregistered documentarily

159. A pharmaceutical company produces tablets. Tableting by means of direct compression requires:

- A. No prior granulation
- B. Prior granulation
- C. Formation of masses
- D. Prior homogenization
- E. Application of hydraulic press

160. A pharmaceutical company produces aromatic waters. Peppermint water should be prepared in the following proportion:

- A. 1:1000
- B. 1:2000
- C. 1:4000
- D. 1:10
- E. 1:1

161. A young mother has come to a pharmacy to buy an antipyretic drug for her 3-month-old infant. What dosage form would you choose for the infant?

- A. Suppositories
- B. Tablets
- C. Capsules
- D. Spray
- E. Lozenges

162. The management plans to open a new pharmacy in one of the local villages. Such activity can be identified as:

- A. Growth strategy
- B. Vertical integration
- C. Horizontal integration
- D. Conglomerate diversification
- E. Horizontal diversification

163. To minimize business risks, the board of directors of a pharmaceutical company decides to expand into a market of plant protection products. Such approach to risk management is called:

- A. Diversification
- B. Insurance
- C. Intensification
- D. Integration
- E. Consolidation

164. Publicly-owned *Isotope* factory is the only manufacturer of radiopharmaceuticals in Ukraine. What type of distribution is characteristic of radioactive drugs?

- A. Exclusive
- B. Selective
- C. Intensive
- D. Sample
- E. Bulk

165. A 28-year-old woman came to a pharmacy complaining of constipation that developed after antacid treatment. What drug could be the cause of this symptom?

- A. Aluminium-containing drugs
- B. Magnesium-containing drugs
- C. Calcium carbonate
- D. Simethicone
- E. Ranitidine

166. A 60-year-old man has come to a pharmacy with complaints of impaired twilight vision, dry sclera, cracked and peeling skin. The dispensing chemist suspected hypovitaminosis and recommended the customer to take the following drug after consultation with the physician:

- A. Retinol acetate
- B. Tocopherol acetate
- C. Ergocalciferol
- D. Vicasol (Menadione)
- E. Ascorbic acid

167. A pharmaceutical company produces Lugol's iodine solution. By type of solvent this solution belongs to the following group:

- A. Glycerine solutions
- B. Alcohol solutions
- C. Oil solutions
- D. Water solutions
- E. Chloroform solutions

168. A patient was prescribed an oral antibiotic for treatment and an antacid to remove heartburn symptoms. If the drugs are taken simultaneously their interaction can result in the following:

- A. Antibiotic malabsorption
- B. Relative overdosage
- C. Inhibition of hepatic microsomal enzymes
- D. Mutual potentiation
- E. Acceleration of metabolism and excretion

169. Medicinal dyes should be stored in a special cabinet. Which of the listed medical products is a dye:

- A. Brilliant green
- B. Hydrogen peroxide
- C. Ethyl alcohol
- D. Glucose
- E. Ascorbic acid

170. *Calendula Ointment* is placed on the shelf next to *Dr. Theiss Calendula Ointment*. What approach to the shelf layout is used in this pharmacy?

- A. Among competitors
- B. Corporate block layout
- C. By package size
- D. Doubling product facings
- E. Seasonality

171. A certain herbal raw material is used to make *Flamin* cholagogue. Name this material:

- A. *Helichrysi arenarii flores*
- B. *Meliloti herba*
- C. *Violae herba*
- D. *Tanaceti flores*
- E. *Crataegi flores*

172. A pharmaceutical warehouse has received a batch of herbal raw material - hawthorn flowers. Merchandise analysis revealed in one of the sacks significant amount of bird-cherry flowers besides the hawthorn. What quality assessment of the herbal raw material should be performed?

- A. Acceptable admixtures
- B. Mineral admixtures
- C. Moisture content
- D. Ash values (Total ash)
- E. Extractive values

173. A powder containing a substance with specific weight has been prepared in a pharmacy. Name this substance:

- A. Basic bismuth nitrate
- B. Sugar
- C. Bolus alba
- D. Talcum
- E. Sodium bicarbonate

174. Buckthorn bark and its derivative drugs are used as laxatives in medicine. According to the State Pharmacopoeia of Ukraine during chromatographic identification of buckthorn bark it is necessary to detect:

- A. Glucofrangulins
- B. Panaxosides
- C. Lanatosides
- D. Ginkgosides
- E. Purpurea glycosides

175. Weibel's liquid is necessary to stabilize the solution of a certain substance. Name this substance:

- A. Glucose
- B. Novocaine
- C. Potassium chloride
- D. Sodium chloride
- E. Magnesium sulfate

176. Strategic planning of pharmaceutical companies consists of several consecutive stages. What stage is the final one?

- A. Strategy assessment
- B. Setting goals and tasks
- C. Environment assessment and analysis
- D. Analysis of organisation's internal strength and weaknesses
- E. Choice of strategy

177. What tablet coating protects stomach from harmful influence of active ingredients?

- A. Intestinally absorbed
- B. Water-soluble
- C. Gastrically absorbed
- D. Fat-soluble
- E. -

178. A pharmacy supplies the surgical ward of a hospital. What document enables the dispensing chemist to supply the goods:

- A. Purchase order
- B. Product revaluation notice
- C. Report on the movement of packaging
- D. Consolidated register
- E. Receipt log book

179. A 68-year-old man has been prescribed a hypolipidemic agent as a part of his combination therapy for ischemic heart disease. Name this drug:

- A. Atorvastatin
- B. Nitroglycerine
- C. Lisinopril
- D. Nifedipine
- E. Hydrochlorothiazide

180. According to the law regulating labour remuneration, the businesses must establish their compensation plan in the following document:

- A. Collective agreement
- B. Contract of delivery
- C. Decree
- D. Statement
- E. Job description

181. If vehicle is not specified, an eye ointment should be prepared with the following sterile vehicle:

- A. 10 parts of anhydrous lanolin - 90 parts of vaseline *For Eye Ointments*
- B. Vaseline *For Eye Ointments*
- C. 40 parts of anhydrous lanolin - 60 parts of vaseline *For Eye Ointments*
- D. 30 parts of lanolin - 70 parts of vaseline
- E. Lanolin: vaseline - 1:1

182. What factor enables the extraction of maximum amount of alkaloids from the herbal raw material?

- A. Certain value of the solution pH
- B. Preliminary processing of raw materials for their saturation with 96% alcohol
- C. Herbal raw material should be fresh
- D. Slight heating
- E. Intense heating

183. What activity of a pharmaceutical company includes improvement of employees' working and living conditions, healthcare and medical insurance and other means of social development?

- A. Social responsibility
- B. Commercial activity
- C. Financial activity
- D. Industrial activity
- E. Charity

184. Complex drug product *Urolesan* is a litholytic, antispasmodic, and diuretic agent. It contains ethanolic extract of:

- A. *Origanum vulgare*
- B. *Thymus serpyllum*
- C. *Rhododendron tomentosum*
- D. *Matricaria chamomilla*
- E. -

185. To identify pilocarpine hydrochloride it is necessary to use reaction with sodium nitroprusside in an alkaline medium (Legal's test). Resulting cherry-red coloring confirms presence of the following in the pilocarpine structure:

- A. Lactonic ring
- B. Imidazole ring
- C. Methylene group
- D. Chloride ions
- E. Methyl group

186. When dispensing an antacid and ofloxacin in tablets, the dispensing chemist warned the customer that these drugs should be taken separately with 2-hour interval in between. Simultaneous taking of both drugs:

- A. Decreases ofloxacin absorption
- B. Increases ofloxacin absorption
- C. Increases antacid effectiveness
- D. Decreases antacid effectiveness
- E. Increases risk of dysbiosis

187. A control laboratory needs to analyze streptomycin powder for injections. To identify it according to the State Pharmacopoeia of Ukraine sodium hydroxide is added into the dissolved powder, the resulting substance is heated, and then iron (III) chloride solution is added, which results in violet coloring of the substance. This test is known as:

- A. Maltol test
- B. Ninhydrin test
- C. Vitali-Morin reaction
- D. Biuret test
- E. Thiochrome test

188. A substance was received for analysis. The substance is a round seed

1-1,8 mm in diameter, yellow with bluish tint. When mashed with water, emits characteristic irritant odor; is sharp and acrid to taste. The raw material can be identified as:

- A. Mustard seeds
- B. Flax seeds
- C. *Plantago psyllium* seeds
- D. Fenugreek seeds
- E. Nigella seeds

189. Bank is a financial mediator in pharmacy's payments. Payment of taxes withheld from the employees' salary into budget requires the following document:

- A. Payment order
- B. Check payable in account
- C. Accounting form
- D. Cash register receipts
- E. Cash order

190. A powder with a hard to disintegrate substance has been made in a pharmacy. Specify this substance:

- A. Camphor
- B. Sodium chlorides
- C. Osarsolum (Acetarsol)
- D. Talcum
- E. Sugar

191. Polyethylene oxide base belongs to the following group:

- A. Hydrophilic
- B. Hydrophobic
- C. Amphiphilic
- D. Emulsion
- E. Fat

192. Choose the solvent necessary to prepare concentrated solution of sodium bicarbonate in a pharmacy:

- A. Purified water
- B. Peach-kernel oil
- C. Chloroform
- D. Vaseline
- E. Ethanol

193. During storage, suspension instability manifests itself as:

- A. Sedimentation of particles
- B. Flocculation of particles
- C. Dissolution of particles
- D. Caking of particles
- E. Change of particles shape

194. Specify the drugs recommended for prevention and correction of dysbiotic problems caused by antibiotic therapy:

- A.** Probiotics
- B.** Antacids
- C.** Prokinetics
- D.** Uroseptics
- E.** Choloretics

195. The documents of a pharmaceutical company are being received and sent in a centralized manner; the documents are stored, drawn-up, registered, and assembled into cases both in the Office Desk of the company and the company's divisions. Specify this type of records management system:

- A.** Mixed
- B.** Centralized
- C.** Decentralized
- D.** Referent
- E.** -

196. Employees of a wholesale pharmaceutical company have undergone an assessment for their compliance with the requirements of their respective positions. Specify the type of human resources assessment:

- A.** Concluding
- B.** Preliminary
- C.** Concurrent
- D.** Financial
- E.** -

197. In the process of pharmaceutical company entering an offshore market the traditions and customs, religion, system of values, and education level of the local population were analyzed. What factors of international marketing environment were researched?

- A.** Sociocultural
- B.** Political
- C.** Economical
- D.** Legal
- E.** Technological

198. What means of demand stimulation can be applied by pharmacy management among its employees?

- A.** Bonuses
- B.** In-store advertising
- C.** Layout of medical products in shop-windows and on shelves
- D.** Coupons
- E.** -

199. A system of indicators characterizes financial and business activity of an organization and the state of its assets and sources on the certain day in the monetary unit. Name this system:

- A.** Balance sheet
- B.** Business transactions log book
- C.** Double entry
- D.** Turnover balance sheet
- E.** Receipts and expenditures report

200. According to the current Ukrainian legislation all drugs are divided into two categories: prescription and nonprescription (over-the-counter). Which one of the listed drugs requires no prescription?

- A.** Ascorbic acid, 500 mg №30
- B.** Tramadol, capsules, 0,05 №10
- C.** Clonidine, ampoules, 1 ml of 0,01% solution №10
- D.** Phenobarbital, tablets, 100 mg №6
- E.** Ketamine, 5% infusion solution, 2 ml №10

INSTRUCTIONAL BOOK

Testing Board

TEST ITEMS FOR LICENSING EXAMINATION: KROK 2. PHARMACY.

Kyiv. Testing Board.
(English language).

Approved to print 12.04/№182. Paper size 60x84 1/8
Offset paper. Typeface. Times New Roman Cyr. Offset print.
Conditional print pages 20. Accounting publishing pages 24.
Issue. 153 copies

List of abbreviations

A/G	Albumin/globulin ratio
A-ANON	Alcoholics anonymous
ACT	Abdominal computed tomography
ALT	Alanin aminotransferase
AP	Arterial (blood) pressure
AST	Aspartat aminotransferase
BP	Blood (arterial) pressure
BR	Breathing rate
bpm	Beats per minute
C.I.	Color Index
CBC	Complete blood count
CHF	Chronic heart failure
CT	Computer tomography
DIC	Disseminated intravascular coagulation
DCC	Doctoral controlling committee
DM-2	Non-Insulin dependent diabetes mellitus
DTP	Anti diphtheria-tetanus vaccine
ECG	Electrocardiogram
ESR	Erythrocyte sedimentation rate
FC	Function class
FEGDS	Fibro-esphago-gastro-duodenoscopy
Gy	Gray
GIT	Gastrointestinal tract
Hb	Hemoglobin
HbA1c	Glycosylated hemoglobin
Hct, Ht	Hematocrit
HDL	High-density lipoproteins
IDDM	Insulin dependent diabetes mellitus
IHD	Ischemic heart disease
IU	International unit
MSEC	Medical and sanitary expert committee
NIDDM	Non-Insulin dependent diabetes mellitus
pCO ₂	CO ₂ partial pressure
pO ₂	O ₂ partial pressure
Pm	Per minute
Ps	Pulse rate
R	Roentgen
RBC	Red blood count
Rh	Rhesus
RR	Respiratory rate
S1 (S ₁)	Heart sound 1
S2 (S ₂)	Heart sound 2
TU	Tuberculin unit
U	Unit
USI	Ultrasound investigation
V/f	Vision field
WBC	White blood count
X-ray	Roentgenogram