

1. A pharmacist has to prepare an oil emulsion with menthol. Specify the appropriate way of the active substance incorporation:

- A. Dissolution in oil
- B. Dispersion with the addition of ready emulsion
- C. Dissolution in water intended for diluting the primary emulsion
- D. Dissolution in the ready emulsion by heating
- E. Incorporation into the ready primary emulsion

2. It is required to prepare a decoction of bearberry leaves. Specify the ratio of raw materials to the extractant if not indicated in the formulation:

- A. 1:10
- B. 1:20
- C. 1:30
- D. 1:5
- E. 1:400

3. A pharmacist prepared an injectable solution of novocaine. What stabilizer had been used?

- A. Hydrochloric acid solution
- B. Sodium bicarbonate solution
- C. Stabilizator of Weibel
- D. Sodium sulfite solution
- E. Sodium thiosulfate solution

4. Specify the type of capsules which are used for dispensing camphor powders:

- A. Parchment
- B. Cellophane
- C. Paraffin
- D. Waxed
- E. Common paper

5. A pharmacist has prepared a suspension ointment. Specify the substance used for this type of ointments:

- A. Zinc oxide
- B. Protargolum
- C. Menthol
- D. Ichthyol
- E. Potassium iodide

6. A pharmacy received a formulation for eye drops containing 1% solution of pilocarpine hydrochloride. What substance should be used to ensure that the resultant solution is isotonic?

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

7. A pharmacist prepared 10 powders containing atropine sulfate in an amount of 0,00005 per dose. What trituration had been used?

- A. 1:100
- B. 1:10
- C. 1:1000
- D. 1:50
- E. 1:20

8. A pharmacy received the following formulation:

Rp.: Xeroformii
Picis Liquidae Betulae ana 3,0
Olei Ricini 100,0
M.D.S. For wound anointing.
Specify the dosage form:

- A. Liniment
- B. Hydrophilic ointment
- C. Paste
- D. Combined ointment
- E. Solution

9. Suppositories are prepared by various methods such as rolling, pouring, pressing. What base is used in the pouring method?

- A. Butyrolum
- B. Paraffin
- C. Cocoa butter
- D. Vaseline
- E. Coriander oil

10. It is required to prepare 50 g of zinc ointment for a patient. What amount of zinc and vaseline must be weighed out by a pharmacist?

- A. 5,0 and 45,0 g
- B. 10,0 and 40,0 g
- C. 2,5 and 40,0 g
- D. 1,0 and 49,0 g
- E. 0,5 and 49,5 g

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

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

12. When preparing an ointment with castor oil and vaseline a pharmacist failed to obtain a homogeneous system. What is the most likely cause of incompatibility between these components?

- A. Immiscibility of the ingredients
- B. Limited solubility
- C. Release of water of crystallization
- D. Coagulation
- E. Adsorption

13. A pharmacist prepared an ointment by the following formulation:

Rp.: Tannini 0,2
Lanolini 3,0
Vaselini 10,0
M. ut f. ung.
D.S. To anoint the affected skin areas.

What method of tannin incorporation was used?

- A. Water dissolution, emulsification with anhydrous lanolin
- B. Trituration with liquid petrolate in a mortar by Deryagin rule
- C. Dissolution in molten Vaseline

- D. Trituration with an alcohol in a mortar, blending with the base
- E. Dissolution in liquid petrolate

14. 5% solution of methylcellulose is used as a stabilizer for preparing a suspension of the following drug substance:

- A. Terpene hydrate
- B. Magnesium oxide
- C. Starch
- D. Bismuth nitrate basic
- E. Zinc oxide

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

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

16. A pharmacy compounds suspensions. What substance can be used for preparing a suspension without adding the stabilizer?

- A. Magnesium oxide
- B. Camphor
- C. Sulfur
- D. Menthol
- E. Phenyl salicylate

17. A pharmacy received the following formulation:

Rp.: Dibazoli 0,05
Papaverini hydrochloridi 0,15
Sacchari 2,5
M. fiat pulv.
Divide in partes aequales №10.
Specify the weight of a single powder dose:

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

18. A pharmacist prepares 3000 mL of valerian root infusion for a hospital department. The given amount of extract should be infused in a water bath for:

- A. 25 minutes
- B. 45 minutes
- C. 15 minutes
- D. 10 minutes
- E. 30 minutes

19. A pharmacist has prepared a solution of menthol oil. Specify the dissolution temperature of the active substance:

- A. 40-50° C
- B. 60-70° C
- C. 30-40° C
- D. 70-80° C
- E. 20-30° C

20. Which of the following vaginal dosage forms relate to the officinal formula, that is, are prepared in a pharmacy?

- A. Pessaries
- B. Vaginal tablets
- C. Vaginal capsules
- D. Vaginal foams
- E. Vaginal tablets for preparing solutions and suspensions

21. Which group of adjuvants includes polyvinyl alcohol used under the SPhU?

- A. Prolongators
- B. Preservatives
- C. pH adjusters
- D. Antioxidants
- E. Isotonizing agents

22. A pharmacist has to prepare a medication by the following formulation:

Rp.: Natrii hydrocarbonatis 2,0

Natrii benzoatis 1,5

Liquoris Ammonii anisatis 4 ml

Aquae Mentae 100 ml

M.D.S. 1 tablespoon 3 times a day.

Specify the component that is added in the first place:

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

23. A pharmacist prepares an ointment under aseptic conditions on the sterile ointment base, namely the composition of vaseline and lanoline at a ratio 6:4. The drug substance is incorporated by suspension type. Such technique 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

24. The galenical preparations workshop produces belladonna tincture. Specify the required ratio for this dosage form:

- A. 1:10
- B. 1:5
- C. 1:20
- D. 1:2
- E. 1:1

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

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

26. Oil liniments are produced with fatty oils used as a base. What kind of oil should be used by a pharmacist if it was not specified in the formulation?

- A. Sunflower oil
- B. Petrolatum
- C. Cod-liver oil
- D. Sesame oil
- E. Eucalyptus oil

27. Production unit for ampouled medicinal preparations produces procaine hydrochloride solution. This solution is stabilized by adding:

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

28. A pharmacist prepares an infusion at a ratio of 1:30. What herbal raw material will be used?

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

29. A pharmacist has prepared vaginal suppositories. Specify the form of these suppositories:

- A. Marbles
- B. Torpedo
- C. Cylinder
- D. Cone
- E. Sticks

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

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

31. A pharmacist prepares trituration of atropine sulfate. What adjuvant should be used for this purpose?

- A. Lactose
- B. Saccharose
- C. Glucose
- D. Starch
- E. Talc

32. A pharmacist prepared eye drops containing silver nitrate. What substance must be taken to ensure isotonicity?

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

- D. 10,0 g, 30,0 g
- E. 20,0 g, 10,0 g

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

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

41. A pharmacy received a prescription for an oil liniment including streptocidum. What is the type of disperse system of this preparation?

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

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

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

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

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

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

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

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

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

Specify the cream type:

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

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

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

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

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

48. The simple sugar syrup consists of:

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

49. 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

50. A pharmacist prepared suppository mass with novocaine and cocoa butter, but it turned out to be crumbling. What substance to be added to form a plastic mass:

- A. Anhydrous lanolin
- B. Hydrous lanolin
- C. Paraffin
- D. Vaseline
- E. Wax

51. A pharmacist has to sterilize 400 ml of calcium gluconate solution for injections. Specify the time of autoclave sterilization of the solution at 120°C:

- A. 12 minutes
- B. 20 minutes
- C. 15 minutes
- D. 10 minutes
- E. 30 minutes

52. A patient has been administered a solution containing boric acid and camphor. What solvent should his doctor prescribe in order to prevent physical incompatibility?

- A. Ethyl alcohol 70%
- B. Purified water
- C. Sunflower oil
- D. Glycerol

E. Ethyl alcohol 40%

53. A doctor prescribed his patient an emulsion of olive oil which includes anesthesin. To incorporate anesthesin into the emulsion it must be dissolved:

- A. In oil before preparing the emulsion
- B. In the finished emulsion
- C. In the purified water
- D. In the primary emulsion
- E. In the alcohol, and then added to the primary emulsion

54. The patient has been prescribed Linimentum Rosentali. It is composed of:

- A. Paraffin, alcohol, chloroform, iodine
- B. Castor oil, calcium chloride, alcohol
- C. Chloroform, methyl salicylate, turpentine
- D. Iodine, potassium chloride, glycerin
- E. Sunflower oil, ammonia, oleic acid

55. 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

56. A pharmacist prepares a suspension ointment. What substance is soluble in water, but should be incorporated into the dermatological ointments as a suspension?

- A. Resorcinol
- B. Zinc oxide
- C. Sulfacyl sodium
- D. Furacilin
- E. Potassium iodide

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

- A. Mixture dampening
- B. Eutectic
- C. Immiscibility
- D. Adsorption
- E. Isolation of crystallization water

58. 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

59. A pharmacy received a prescription for powders with doctor's instruction to dispense powders in gelatin capsules. Which of the following substances is included in the composition of these powders?

- A. Ethacridine lactate
- B. Magnesium oxide
- C. Streptocide

- D. Diphenhydramine
- E. Glucose

60. A pharmacist prepared 150 ml of Adonis vernalis infusion using dry extract concentrate [1:1] that had to be weighed in the amount of:

- A. 5,0
- B. 7,5
- C. 10,0
- D. 15,0
- E. 22,5

61. A pharmacist has prepared an emulsion. Specify the way of incorporation of the fat-soluble substances:

- A. They are dissolved in oil
- B. They are dissolved in purified water
- C. They are incorporated in undissolved form
- D. They are added to the finished emulsion
- E. They are added to the emulsifier

62. A pharmacy received a prescription for a mixture. What drug substances are incompatible?

- A. Papaverine hydrochloride + aminophylline
- B. Novocaine + diphenhydramine
- C. Sodium bromide + sodium chloride
- D. Codeine phosphate + extract of Thermopsis
- E. Phenobarbital + glucose

63. 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

64. A pharmacy has to prepare a soft drug based on the gel made from inorganic substances. Which of these highmolecular compounds can be used for preparing such a base?

- A. Bentonites
- B. Cellulose ethers
- C. Starch
- D. Polyethylene oxides
- E. Collagen

65. A pharmaceutical enterprise produces ointments. What base is applied for production of sulfur ointment simple?

- A. Emulsion
- B. Vaseline
- C. Base "For ophthalmic ointments"
- D. Lanolin
- E. Polyethylene glycol

66. A pharmacy received an order for 2500 ml of isotonic sodium chloride solution. How much sodium chloride and water for injections should be taken to prepare this dosage form?

- A. 22,5 g of sodium chloride and 2500 ml of water for injections
- B. 50,0 g of sodium chloride and 2450 ml of water for injections

- C. 25,0 g of sodium chloride and 2500 ml of water for injections
- D. 30,0 g of sodium chloride and 2500 ml of water for injections
- E. 100,0 g of sodium chloride and 2400 ml of water for injections

67. 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

68. 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

69. 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

70. A pharmacist prepares internal drops with the following formulation: 5 ml of adoniside, 10 ml of valerian and lily-of-the-valley tincture each, 0,1 g of menthol, 2,0 g of potassium bromide. It will be efficient to dissolve potassium bromide in the following substance:

- A. In the adoniside
- B. In the lily-of-the-valley tincture
- C. In the valerian tincture
- D. In the mixture of tinctures
- E. Potassium bromide should be added into the selling vial last of all

71. A pharmacist is preparing vaginal suppositories by method of pouring. Which hydrophilic base can he use for this purpose?

- A. Polyethylene oxide
- B. Cocoa butter
- C. Vitepsol
- D. Hard fat
- E. Butyrol

72. A pharmacist revealed incompatibility in formulation:

Rp.: Sol. Collargoli 1 % - 10 ml
Sol. Adrenalini hydrochloridi 0.1 % - 1 ml
M.D.S. Drops for nose.

Indicate a process which is carrying out in this formula:

- A Oxidization
- B Neutralization
- C Precipitation

- D Hydrolysis
- E Absorption

73. A pharmacist made a tincture of *Adonis* herb. A peculiarity of its preparation is that the active substances are derived in:

- A In the neutral medium
- B In the – alkaline medium
- C In the alkaline medium
- D In the subacid medium
- E In the acid medium

74. A pharmacist-technologist received an ointment formulation.

Rp.: Unguenti 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 alcohol drops
- C Triturated with a few water drops
- D Add to molten vaseline
- E Triturated with a part of Vaseline

75. A pharmacist made eye drops of pilocarpine hydrochloride and adrenaline hydrochloride solution. A peculiarity of incorporation of the adrenaline hydrochloride solution is that it is added:

- A After sterilization, aseptic
- B After dissolving of solids
- C To the half dose of solvent
- D In the first place
- E After isotoning

76. A patient has been administered powders containing menthol. What is the best way to achieve the required extent of menthol comminution?

- A To triturate it with alcohol or ether
- B To triturate it with glycerol or chloroform
- C To triturate it with purified water
- D To triturate it with other components of the formulation
- E To triturate it with thoroughly with sugar

77. Stability of suspensions can be enhanced by substances, which increase the viscosity of the dispersion medium. Specify the substance that exhibits such properties:

- A Glycerol
- B Purified water
- C Ethanol
- D Dimexid
- E Ether

78. A doctor prescribed an olive oil emulsion 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

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

- A Sterilization by saturation vapour pressure
- B Tyndalization
- C Sterilization by dry heat
- D Sterilization by gases
- E By high-frequency current

80. 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 Absorption
- D Dissection
- E Eutectic formation

81. A pharmacist was preparing an ointment with ricin oil and Vaseline but failed to get homogenous system. What is the most likely cause of incompatibility between these components?

- A Component immiscibility
- B Restricted solubility
- C Release of water of crystallization
- D Coagulation
- E Adsorption

82. A doctor wrote a prescription for the tincture of digitalis with hydrochloric acid. What is the reason for their incompatibility?

- A Hydrolysis (with no visible change)
- B Precipitation
- C Gassing
- D Change in colour
- E Change in odour

83. A pharmacist made a medicinal preparation according to the following formulation:

Rp.: Chloroformii
 Olei Helianthi
 Methylii salicylatis ana 10.0
 Misce. Da. Signa. For infraction.

Specify the kind of disperse system:

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

84. A pharmacy received the following prescription: 0.0002 g of scopolamine hydrobromide per 1 powder. How much of 1:100 trituration is required for the preparation of 10 powders?

- A 0.2
- B 0.04
- C 4.0
- D 0.4
- E 2.0

85. A pharmacy received a prescription 3% alcohol solution of boric acid. What concentration of ethyl alcohol is required for preparing the drug form?

- A 70 %

- B 60 %
- C 40 %
- D 90 %
- E 96 %

86. Eye drops are prepared with an ointment base which is an alloy of Vaseline and lanolin. Specify the method of its sterilization:

- A Dry heat
- B Flowing steam
- C Pasterization
- D UV-rays
- E Membranic filtration

87. Suspensions as heterogenous systems can be characterized by kinetic and sedimentary instability. What substance is used for increasing suspension stability with hydrophobic substances?

- A Gelatose
- B Sodium chloride
- C Boric acid
- D Sodium suphate
- E Glucose

88. How much water should be taken in order to prepare 200 ml of aqueous extract of motherwort ($C_{\text{consumption}}$ is 2 ml/g)?

- A 240 ml
- B 220 ml
- C 200 ml
- D 160 ml
- E 210 ml

89. In course of preparation of suppositories by the pumping method the suppository mass became viscous and fluid after the incorporation of chloral hydrate into the cocoa butter. What substance should be added to the suppository mass in order to restore its density and plasticity?

- A Wax
- B Glycerine
- C Purified water
- D Dimexid
- E Starch

90. 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

91. 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

92. A pharmacist prepares several different solutions with antibiotics under aseptic conditions. He can sterilize the solution of the following substance:

- A Chloramphenicol
- B Benzylpenicillin-sodium
- C Neomycin sulphate
- D Benzylpenicillin-potassium
- E Polymyxin sulphate

93. A pharmacist has revealed an incompatibility in the prescription. What drug substances form an eutectic mixture?

- A Chloral hydrate + camphor
- B Antipyrine + analgin
- C Calcium chloride + sodium chloride
- D Ephedrine hydrochloride + glucose
- E Sodium Hydrocarbonate + hexamethylenetetramine

94. A pharmacist has to prepare suppositories with a glycerine gelatine base by the molding method. What is the ratio of gelatin, water and glycerine required for the base?

- A 1:2:5
- B 2:2:4
- C 1:3:4
- D 2:1:5
- E 3:2:3

95. Specify the type of the following liniment:

Rp.: Olei Helianthi 7.4
 Sol. Ammonii caustici 2.5 ml
 Acidi Oleinici 0.1
 Misce. Da. Signa. Ammonia liniment. For rubbing.

- A Liniment – emulsion (o/w)
- B Combined liniment
- C Liniment – solution
- D Liniment – suspension
- E Liniment – emulsion (w/o)

96. 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 30
- D 15
- E 25

97. A pharmacist has prepared powders including extract of belladonna in the amount 0.015 g per dose. For ten doses he had to take the following amount of dry extract:

- A 0.3 g
- B 0.15 g
- C 1.5 g

- D 0.03 g
- E 0.015 g

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

- A Gelatin
- B Trypsin
- C Pepsin
- D Methylcellulose
- E Pancreatin

99. A schedule of sanitation actions in pharmacies is regulated by the relevant normative documents. Cleaning day at a pharmacy must be scheduled for at least 1 time:

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

100. A pharmacist has prepared solution of ethacrydine lactate. Name the peculiarity of this substance dissolution.

- 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

101. A pharmacy received a prescription for Vaseline-lanoline based eye ointment. What proportion of Vaseline to lanoline should be chosen by a pharmacist to make the ointment base?

- A 9:1
- B 1:1
- C 5:1
- D 8:2
- E 7:3

102. A pharmacist has made an althaea root tincture. What proportion of raw herbal material to extractant was chosen by the pharmacist to make this tincture?

- A 1:20
- B 1:10
- C 1:30
- D 1:100
- E 1:400

103. A pharmacist prepares a solution for injections that must be stabilized with 0,1M of hydrochloric acid solution. What solution is to be prepared?

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

104. A patient bought mint leaves at a pharmacy. What recommendations regarding infusion of this raw herbal material must be given by a pharmacist?

- A The infusion is to be prepared in a tightly closed vessel
- B The infusion is to be prepared on open fire
- C The infusion is to be prepared at room temperature
- D The extract is to be immediately filtered after infusing
- E The extract is to be artificially cooled 15 minutes after infusing

105. A pharmacist has been administered a solution containing boric acid and camphor. What solvent should his doctor prescribe to prevent physical incompatibility?

- A Ethanol 70%
- B Purified water
- C Sunflower oil
- D Glycerol
- E Ethanol 40%

106. Injection solutions of weak acids and strong bases must be stabilized. What stabilizers are used for such solutions?

- A 0.1M sodium hydroxide solution
- B 0.1M hydrochloric acid solution
- C Sodium edetate (Disodium EDTA, Trilon B)
- D Ascorbic acid
- E Butyloxytoluene

107. A pharmacy makes infusion solutions. Specify the solution that restores water-salt metabolism.

- A Ringer-Locke's solution
- B Polyglucinum
- C Neohemodezum
- D Hydrolysine
- E Dextran

108. A pharmacy received a prescription for tincture. What raw herbal 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

109. A pharmacist prepared a drug according to the following prescription:

Rp.: Streptocidi
 Dermatoli ana 1.0
 Lanolini
 Vaselini ana 5.0
 M. D. S. Apply to the affected skin.

Specify the type of disperse system:

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

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

- A BP 1,0 (balance beam scale, capacity 1,0)
- B BP 5,0 (balance beam scale, capacity 5,0)

- C BP 20,0 (balance beam scale, capacity 20,0)
- D BP 10,0 (balance beam scale, capacity 10,0)
- E BP 2,0 (balance beam scale, capacity 2,0)

111. What stage is the last in making injection solutions?

- A Labelling
- B Sterilization
- C Filtering
- D Qualitative control
- E Quantitative control

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

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

113. A pharmacist has prepared a solution of menthol oil. Specify the dissolution temperature of the active substance:

- A 40-50°C
- B 60-70°C
- C 30-40°C
- D 70-80°C
- E 20-30°C

114. A pharmacist should make 200 ml of 3% sodium bicarbonate solution for injections. What are the specifics of making this solution?

- A Vial should be filled to 2/3 of its volume; sterilization at 120°C for 12 minutes
- B No sterilization
- C Dissolve by heating; sterilization at 120°C for 12 minutes
- D Use stabilizing agent
- E Use water free of redox substances

115. 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 to powder when it is dry or with small amount of solvent added
- C Dissolve in water free of redox substances
- D Add equal amount of sodium chloride
- E Dissolve in alkaline medium

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

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

117. A pharmacy received a prescription for external use powder containing a substance difficult to pulverize. What liquid can be used by a pharmacist to disperse this substance?

- A Ethyl alcohol

- B Purified water
- C Water for injections
- D Dimethyl sulfoxide
- E Isopropyl alcohol

118. Specify the amount of raw herbal material necessary to make a dosage form according to the following prescription: Take 200 ml of Montherwort herb solution. Dispense. Prescribed dosage is 1 tablespoon 3 times a day.

- A 20.0
- B 10.0
- C 1.0
- D 5.0
- E 4.0

119. Which of the liquids given below should be measured by volume in making liquid dosage forms?

- A 20% solution of sodium bromide
- B Vaseline oil
- C Diethyl ether
- D Eucalyptus oil
- E Glycerine

120. A pharmacy received prescriptions for compound powders containing colouring agent. Which of powder components given below is a colouring agent?

- A Ethacridine lactate (Rivanol)
- B Camphor
- C Sulfanilamide
- D Bismuth nitrate
- E Silver proteinate (Propargol)

121. A pharmacy received a prescription for an alcohol solution of methylene blue with unspecified alcohol concentration. In this case a pharmacist must use ethyl alcohol of the following concentration:

- A 60%
- B 90%
- C 70%
- D 96%
- E 40%

122. To make a liquid №2 by Demyanovych prescription hydrochloric acid should be taken in the following concentration:

- A 24,8-25,2%
- B 0,83%
- C 98%
- D 30%
- E 10%

123. Specify the base for antibiotic ointments:

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

124. To increase hydrophobic suspension stability a stabilizer is added. Name this stabilizer.

- A Polysorbate 80 (Tween 80)

- B Sodium chloride
- C Dimethyl sulfoxide
- D Glucose
- E Vaseline oil

125. What ratio is used in making hawthorn tincture?

- A 1:10
- B 1:2
- C 1:5
- D 1:20
- E 1:1000

126. Tyndallisation 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