TESTS

TECHNOLOGY OF DRUGS

CHAPTER I

GENERAL TERMS IN TECHNOLOGY OF MEDICINAL FORMS. DOSING IN PHARMACY PRACTICE

1. What is the name of the formula prescribed for an individual patient?
A *Magistral
B Officinal
C Manual
D Non-standard
E Author's

2. What is the minimal mass of poison can be weighed by manual balance 1?
A *0.05
B 0.1
C 0.02
D 0.01
E 0.03

3. What the group of medicinal substances has a label of a white colour on the black background?
A *Poisonous
B Strong-effective
C Non-strong-effective
D Dyeing
E Aromatic

4. The storage term of the prescription form for narcotic medicinal substances in chemist's shop is:
A *5 years
B 3 years
C 1 year
D 2 years
E 2 months

5. What the medicinal form of the following ones is non-dosed?
A *Drops
B Suppositories
C Tablets
D Granules
E Capsules

6. For sanitary treatment of his working table a pharmacist used the solution of:
A *solution of chloramine B
B alcoholi-ether mixture

C solution of potassium permanganate
D solution of sodium hydrocarbonate
E suspension of mustard powder

7. What kind of manual balance is used in a chemist's shop?
**A ***MB 5.0
B MB 200.0
C MB 50.0
D MB 10.0
E MB 500.0

8. What label is used for registration of the concentrated solution?
**A ***Preparing especially for the given solution
B «External»
C «Internal»
D «Solution»
E «Semi-product»

9. What is grade of accuracy of balances used in the chemist's shop?
**A ***Technical of 2^{nd} grade
B 2^{nd} grade
C 3^{rd} grade
D 1^{st} grade
E Analitical of 1^{st} grade

10. A pharmacist should weigh 4.0 g of glucose. What balance should he use for weighing?
**A ***MB 5.0
B MB 100.0
C MB 20.0
D BT 500
E MB 1.0

11. What solution is used for sanitary treatment of balance, sticks, scissors and other pharmacy instruments
**A ***3 % solution of hydrogen peroxide or alcoholic-ether mixture (1:1)
B 1 % solution of chloramine B
C 6 % solution of hydrogen peroxide
D Suspension of mustard
E Solution of sodium hydrocarbonate

12. A pharmacist should measure 10 drops of belladonna tincture by a non-standard dropper. What coefficient does he use?
**A ***Corection coefficient (convertion)
B Replacing coefficient

C Coefficient of water increase
D Water absorption coefficient
E Consumption coefficient

13. What is the capacity of a desert-spoon?
**A ***10 ml
B 5 ml
C 15 ml
D 20 ml
E 25 ml

14. What the minimal mass of ascorbic acid can be weighed by manual balance-1?
**A ***0.02
B 0.05
C 0.01
D 0.1
E 0.2

15. What is the capacity of a tablespoon?
**A ***15 ml
B 25 ml
C 10 ml
D 20 ml
E 5 ml

16. A pharmacist prepared a concentrated solution for the burrette system. How often should it be washed?
**A ***As often as necessary, but not less than once in 10 days
B Once a month
C Twice a month
D Weekly
E As make dirty

17. What is the way of dosing 0.5 g of a liquid?
**A ***By drops
B By volume
C By mass

18. What medicine should be dosed by volume?
**A ***Capsicum tincture
B Peach oil
C Glycerin
D Dense extract of belladonna
E Ichthyol

CHAPTER II

POWDERS

1. A pharmasit prepared powders with a poorly powdered substance. What substance should be grinded with a volatile liquid?
**A ***Camphor
B Magnesium oxide
C Zinc sulphate
D Copper sulphate
E Glucose

2. A pharmacist prepared powders with the belladonna extract in the amount of 0.015 g for one dose. What is the amount of a dry belladonna extract (1:2) for 10 doses?
**A ***0.3 g
B 0.15 g
C 0.5 g
D 0.03 g
E 0.015 g

3. A pharmacist prepared powders with 0.05 g of platiphylline hydrotartrate for all doses. Did he use trituration of platiphylline hydrotartrate?
**A ***He did not
B He used in the ratio of 1:10
C He used in the ratio of 1:100
D He prepared powders in a double quantity
E Powders containing 0.05 g of a poisonous substance are not prepared

4. Indicate capsules used for packing powders with camphora:
**A ***Parchment capsules
B Cellophane capsules
C Paraffin capsules
D Wax capsules
E Simple capsules

5. A pharmacist prepared 10 powders with atropine sulphate in the amount of 0.00005 g for one dose. What kind of trituration did he use?
A *1:100
B 1:10
C 1:1000
D 1:50
E 1:20

6. A pharmacist should prepare 5.0 g of atropine sulphate trituration (1:100). Indicate the amount of atropine sulphate and lactose, which should be used:

A *0.05:4.95
B 1.0:4.0
C 0.1:4.9
D 0.5:4.5
E 0.01:4.99

7. A pharmacist prepared powders:
Rp.: Camphorae 0.1
Glucosi 0.25
M.f.pulv.
D.t.d. N 10
S. Use 1 powder 3 times a day.
What is the optimal technology?

A *Grind glucose and pour out on the paper capsule; grind camphor with alcohol, mix
B Weigh camphor in a mortar, add glucose, mix
C Grind glucose and pour out on the paper capsule; grind camphor, mix
D Put camphor between layers of glucose, mix
E Grind glucose with alcohol, add camphor, mix

8. What is the rule of introduction of a dry belladonna extract into powders?
A *According to general rules depending on the prescribed amount of the extract
B After grinding with some drops of alcohol or medical ether
C According to the method of "three layers"
D Add lastly before powders preparation
E Grind firstly into the mortar with closed pores

9. A pharmacist prepared trituration of platiphylline hydrotartrate (1:10). What auxiliary substance for preparing trituration did he use?
A *Lactose
B Sugar
C Maize starch
D Rice starch
E Mannitol

10. A pharmacist prepared a medicine. What is the optimal technology?
Rp.: Magnesii oxydi
Natrii hydrocarbonatis ana 0,2
M. f. pulv.
D. t. d. №12
S. Use 1 powder 3 times a day.
A * Grind sodium hydrocarbonate, add magnesium oxide, mix
B Grind magnesium oxide, add sodium hydrocarbonate, mix
C Grind sodium hydrocarbonate with alcohol, add magnesium oxide, mix
D Grind a part of magnesium oxide, add sodium hydrocarbonate, then add the rest of

magnesium oxide, mix
E Grind magnesium oxide with alcohol, add sodium hydrocarbonate, mix

11. A pharmacist prepares powders with platiphylline hydrotartrate. What is the minimal mass, which he can weight by manual balance-1?
**A ***0.05
B 0.02
C 0.03
D 0.1
E 0.15

12. The maximal loading of the mortar should be:
**A ***1:20 from its volume
B 1:10 from its volume
C 1:5 from its volume
D 1:15 from its volume
E 1:2 from its volume

13. What is the mass of one powder?
Rp.: Papaverini hydrochloridi 0.01
Sachari 0.25
M.f. pulv.
D.t.d. №10 S. Use 1 powder 3 times a day.
**A ***0.26
B 0.23
C 0.22
D 0.28
E 0.25

14. What ratio is used for preparation of triturations?
A *1:10 and 1:100
B Only 1:10
C 1:1000
D 1: 500
E Only 1:100

15. A pharmacist should prepare a powder for external use with menthol. How can he obtain the required degree of grinding for menthol?
A *Grind with 95 % alcohol
B Grind with glycerol
C Grind with purified water
D Grind with talc
E Grind with chlorophorm

16. A pharmacist prepares powders with riboflavin. What is the way of its introduction

into the powdered mixture?
A *Using the “three layers method”
B Using a preliminary sifted riboflavin
C Using a principle of mixing from the smallest to the biggest ones
D Using a principle of mixing from the biggest to the smallest ones
E Introduction of rifoblavin on the surface of the powdered mixture

17. A pharmacist prepared powders with dyeing substance. What optimal technology of powders has he choosen?
A * Place between layers of colourless substances
B Add at last
C Add at first
D Grind with alcohol and mix with other ingredients
E Mix with the alcohol-water-glycerol mixture.

18. A pharmacist prepares 10 powders of 0.2 g for one powder. What balance is needed for weighing this amount?
A *Manual balance - 5
B Manual balance - 1
C Manual balance - 20
D Manual balance - 100
E Technical balance 1 kg

19. What substance is poorly powdered?
A *Streptocide
B Copper sulphate
C Sugar
D Codeine
E Glucose

20. This substance has a blue colour, but unlike a dyeing substance it does not colour the filter paper, the mortar and the pestile; powders of this substance are prepared by general rules. What is the substance?
A *Copper sulphate
B Ethacridine lactate
C Riboflavin
D Acrichin
E Furacilline

21. A pharmacist prepared powders as prescribed in the formula:
Rp.: Acidi ascorbinici 0.1
Glucosi 0.2
M.f. pulv.
D.t.d. №10

S. Use 1 powder 3 times a day.
What is the mass of one powder?
A *0.3
B 0.1
C 0.2
D 3.0
E 1.0

22. A pharmacist prepared powders with streptocide. What is the way of streptocide introduction?
A * Grind with alcohol at first
B Add as trituration
C Use the three layers method
D Add at last and mix till homogenity
E Add at first while grinding with glycerol

23. A pharmacist dispenses powders in gelatinous capsules. What substance contains in these powders?
A *Ethacridine lactate
B Magnesium oxide
C Streptocide
D Dimedrol
E Glucose

24. Define what substance should be added into the powdered mixture without additional grinding?
A *Starch
B Camphor
C Menthol
D Salicylic acid
E Streptocid

25. A pharmacist prepared complex powders with a medicinal substance prescribed in different amounts. What is the right technology providing homogenity of mixing?
A *Rub pores of the mortar by the substance prescribed in the dreatest amount, pour out a part, add medicinal substances “from the smallest to the biggest ones”
B Rub pores of the mortar by a strong-effective substance, add medicinal substances “from the smallest to the biggest ones”
C Rub pores of the mortar by the substance prescribed in the smallest amount, add medicinal substances “from the smallest to the biggest ones”
D Rub pores of the mortar by the substance prescribed in the smallest amount, mix ingredients according to the list of prescribing in the formula
E Rub pores of the mortar by a poisonous substance, mix with a substance of general list
26. Indicate the composition of the solution of a dense belladonna extract:

A *60 parts of water, 30 parts of glycerol, 10 parts of alcohol
B 60 parts of water, 30 parts of alcohol, 10 parts of glycerol
C 60 parts of alcohol, 30 parts of water, 10 parts of glycerol
D 60 parts of alcohol, 30 parts of glycerol, 10 parts of water
E 60 parts of glycerol, 30 parts of water, 10 parts of alcohol

27. Camphor is a:
A *Poorly powdered substance
B Narcotic substance
C Strong-effective substance
D Dyeing substance
E Spraying substance

28. A pharmacist prepares powdres with a poorly powdered substance. What substance grinds with the auxiliary substance?
A *Thymol
B Magnesium oxide
C Zinc sulphate
D Copper sulphate
E Glucose

29. A pharmacist prepared powders from the formula:
Rp.: Osarsoli 2.5
Glucosi 10.0
Acidi borici 1.0
M.f. pulv.
Div. in p. aeq. №10
S. External.
What is the mass of one powder?
A *1.35
B 13.5
C 0.135
D 10.35
E 1.26

30. A pharmacist prepared powders:
Rp.: Atropini sulfatis 0.0003
Ephedrini hydrohloridi 0.05
Teophyllini 0.1
M. f. pulv.
D. t. d. № 10
S. Use 1 powder 3 times a day.
Determine the mass of one powder:

A *0.18

B 0.15
C 0.20
D 1.8
E 1.5

31. What is a rule for registration of prescription with a poisonous substance?
A *The number of prescription, signature; «Keep out of the reach of children»; «To be handled with caution»; sealing
B Signature; sealing, «Poison»; «To be handled with caution»
C The number of prescription, «Internal» with a letter «P» (powders); « Keep out of the reach of children»
D «Poison», «To be handled with caution», «Internal»
E The number of prescription, «Internal» with a letter «P» (powders); « Keep out of the reach of children»; sealing

32. If a single dose of codeine phosphate is exeeded a pharmacist should:
A *Dispense a half of H.S.D.
B Dispense the prescribed dose
C Dispense a daily dose
D Dispense the highest single dose
E Dispense a highest single dose multiplying by the powders number

33. At the chemist's we prepare simple dosed powders. What is the technological stage that is not required for their formulation?
A *Mixing
B Grinding
C Dosing
D Packing
E Registration for dispensing

34. For preparation of powders a pharmacist grinds glucose, puts it in the capsule and grinds this substance with alcohol. What is the substance?
A *Camphor
B Riboflavin
C Magnesium oxide
D Codeine
E Sodium hydrocarbonate

35. A pharmacist prepares powders with this substance in a separate mortar at the special working place using the method of "three layers". What is the substance?
A *Riboflavin
B Sulphur
C Glucose
D Protargol
E Copper sulphate

36. A chemist's shop received a prescription:
Rp.: Dibazoli 0.05
Papaverini hydrochloridi 0.15
Sacchari 2.5
M. fiat pulv.
Divide in partes aequales № 10.
Indicate the weight of one dose (powder):
A *0.27 g
B 2.7 g
C 0.25 g
D 0.26 g
E 0.30 g

37. A pharmacist prepares powders for internal use. What is the technological stage that does not use?
A *Measuring
B Grinding
C Mixing
D Dosing
E Packing

38. This substance has a yellow colour, but unlike a dyeing substance it does not colour the filter paper, the mortar and the pestile; powders of this substance are prepared by general rules. What is the substance?
A *Sulphur
B Ethacridine lactate
C Riboflavin
D Acrichin
E Furacilline

39. What capsules are used for packing of dyeing substances?
A *Gelatin capsules
B Wax capsules
C Paper capsules
D Parchment capsules
E Cellophane capsules

40. What size of the crushed plant raw material for preparation of mixtures for smoking should be used?
A *2 mm;
B 4.0 mm;
C 0.5 mm;
D 0.2 mm;
E 6.0 mm.

41. Powders that quickly enter into a reaction in the presence of water and liberate carbon dioxide belong to the following group:

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

42. Calculate the quantity of a dried belladonna extract (1:2) required for preparing the following drug formulation:

Rp.:Extracti Belladonnae 0.015
Magnesii oxydi 0.5
Natrii hydrocarbonatis 0.2
Misce ut fiat pulvis
Da tales doses №10
Signa. 1 powder thrice a day.

A *0.3
B 0.15
C 0.4
D 0.6
E 0.015

43. Powders make up an important group among the extemporaneous medicines. Which of the following components can be incorporated into a powder without being preliminarily grinded?

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

44. A pharmaceutist prepares 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 using the trituration (1:100):

A *0.20
B 0.15
C 0.23
D 0.17
E 0.203

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

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

III CHAPTER

LIQUID MEDICINAL FORMS

1. What does 1:10 mean?

A *1.0 g of a medicinal substance and a solvent to obtain 10 ml of the solution
B 1.0 g of a medicinal substance and 10 ml of a solvent
C 1 ml of a solvent and 10.0 g of a medicinal substance
D 1.0 g of a medicinal substance and 10.0 g of a solvent
E 1.0 g of a medicinal substance and 9 ml of a solvent

2. While preparing a solution for better dissolution of iodine in purified water it is necessary to:

A *dissolve iodine in the saturated solution of potassium iodide
B dissolve in boiling water
C grind iodine as a thin powder
D grind iodine with glycerin
E grind iodine with alcohol

3. While preparing 100 ml of 10 % solution of Burov liquid the quantity of the standard solution of basic aluminium acetate is:

A * 10 ml
B 25 ml
C 12.5 ml
D 30 ml
E 50 ml

4. A pharmacist prepared 100 ml of 20 % solution of formaline. What is the amount of the standard solution of formaldehyde?
A *20 ml
B 60 ml
C 10 ml
D 80 ml
E 40 ml

5. To prepare 100 ml 3 % solution of hydrogen peroxide it is necessary to use 30 % perhydrole in the amount of:

A *10.0 g
B 20.0 g
C 0.3 g
D 30.0 g

E 3.0 g

6. A pharmacist prepared the solution of aethacridine lactate. What is a peculiarity of its preparation?

A *Dissolving in a hot water
B Dissolving in a fresh water
C Dissolving in a cold water
D Grinding with water in a mortar
E Dissolving in the solution of potassium iodide

7. Indicate the optimal technology of the formula:
Rp.: Spiritus aethylici 20 ml
Resorcini 0.2
M.D.S. For the skin.

A * Weigh the substance in the bottle for dispensing and measure alcohol
B Measure the solvent in the auxiliary bottle, weigh the substance
C Measure alcohol in the bottle for dispensing, weigh salicylic acid
D Weigh the substance in the auxiliary bottle and measure the solvent
E Grind the substance in the mortar, add the solvent

8. A pharmacist prepared the solution:
Rp.: Sol. Formalini 30 % 100 ml
D.S. For shoes desinfaction.
What is the amount of water and the standard pharmacopoeian liquid needed?

A *70 ml and 30 ml
B 30 ml and 100 ml
C 20 ml and 80 ml
D 60 ml and 40 ml
E 67 ml and 33 ml

9. What concentration of alcohol is used for preparing the solution?
Rp.: Acidi salicylici 0.3
Spiritus aethylici 30 ml
Misce. Da. Signa. For washing feet.
A *70 %
B 33 %
C 95 %
D 60 %
E 80 %

10. A pharmacist prepared drops:
Rp.:Tincturae Belladonnae 5ml

Tincturae Valerianae
Tincturae Leonuri
Tincturae Convallariae ana 10 ml
Misce. Use 30 drops 3 times a day.
What tincture should be added in the bottle for dispensing at first?

A *Belladonna tincture
B Leonura tincture
C Convallaria tincture
D Valerian tincture
E The mixture of tinctures

11. What solvent is used for preparation of potassium permanganate solution?

A *Fresh purified water
B Water for injections
C Alcohol
D Mineral water
E Mint water

12. A pharmacist prepared a mixture with 2.0 g of sodium benzoate. What is the volume of 10 % solution of sodium benzoate used?

A *20 ml
B 2 ml
C 8 ml
D 10 ml
E 12 ml

13. What concentration of alcohol is used for preparation of the solution of boric acid?

A *70 %
B 95 %
C 90 %
D 60 %
E 40 %

14. To prepare 200 ml of ethacridin lactate solution (1:1000) a pharmacist should weigh ethacridin lactate in the amount of:

A *0.2
B 0.1
C 0.02
D 0.04
E 2.0

15. A mixture contains 3.0 g of sodium benzoate. What amount of 10 % (1:10) concentrated solution is necessary for preparing the medicine?

A *30 ml
B 10 ml
C 20 ml
D 3 ml
E 5 ml

16. A pharmacist should prepare 100 ml of the mixture containing glucose for a 8-months baby. What technological stage is different from the mixture preparing for adults?

A *Sterilization
B Straining
C Registration
D Filtration
E Packing

17. What are the peculiarities of disolving furacilline while preparing a solution (1:5000)?

A *In boiling water with sodium chloride
B In cold water
C In the small amount of alcohol
D In purified water after grinding
E In filtered purified water

18. What concentration of hydrogen peroxide should be dispensed if it is not indicated in the prescription?

A *3 %
B 30 %
C 20 %
D 10 %
E 2 %

19. A pharmacist prepared drops for internal application with: 5 ml of adoniside, convallaria tincture and valerian 10 ml each; 0.1 g of menthol, 2.0 g of potassium bromide. What liquid is used for potassium bromide disolving?

A * Adoniside
B Convallaris tincture
C Valerian tincture

D A mixture of tinctures
E A mixture of adoniside and tinctures

20. To prepare 2 % alcoholic solution of boric acid a pharmacist should weigh boric acid and alcohol into the bottle for dispensing. Identify the procedure correctness of the technology chosen:

A *the technology is wrong because alcohol should be dosed by volume
B the technology is wrong because the alcohoic solution should be prepared by heating
C the technology is wrong because at first alcohol is added in the bottle for dispensing
D the technology is wrong because the solution prepared should be filtered
E the technology is right because it is the rule for preparing alcoholic solutions

21. What substance is dissolved in the presence of sodium hydrocarbonate?

A *Osarsol
B Furacillin
C Calcium gluconate
D Lead acetate
E Iodine

22. A pharmacist added tinctures into the mixture. Indicate a right technology:

A *In the bottle for dispensing measure tinctures according to the increase of the alcohol concentration
B Place tinctures in the bottle, add water
C In the auxiliary bottle mix tinctures with the equal amount of the mixture
D In the auxiliary bottle mix tinctures with a mixture and strain
E In the auxiliary bottle measure water, add tinctures and filter

23. What is the right technology for 2 % solution of potassium permanganate?

A *Dissolve while grinding in a mortar with a fresh, filtered purified water
B Dissolve in the bottle for dispensing in purified water
C Dissolve in the auxiliary bottle in purified water, filter
D Dissolve in the bottle for dispensing in a fresh filtered purified water
E Dissolve in the auxiliary bottle in a hot solution of sodium chloride

24. How should iodine be dissolved while preparing Lugol solution?

A *Dissolve in the saturated solution of potassium iodide
B Dissolve in a hot water
C Dissolve in alcohol

D Dissolve in a diluted solution of potassium iodide
E Dissolve in a cold water

25. What is the right technology?
Rp.: Acidi borici 0.1
Glycerini 10.0
M.D.S. Ear drops.

A *Place boric acid in the bottle for dispensing, add glycerol and heat
B Grind boric acid with glycerol
C Place glycerol in the bottle for dispensing , add boric acid and heat
D Place glycerol in the auxiliary bottle, dissolve boric acid in it
E Place glycerol in a porcelain cup, dissolve boric acid in it

26. A pharmacist prepared the oil solution of menthol. What is the right way of dissolving a medicinal substance?

A *Dissolve in a warm oil in the bottle for dispensing
B Grind in a mortar with oil
C Dissolve in oil in the auxiliary bottle
D Grind with alcohol in a mortar, then add oil
E Dissolve in oil in the porcelain cup

27. What is the amount of hydrochloric acid solution (1:10) and water for the medicine preparation?
Rp.: Sol. Acidi hydrochlorici 1% 100 ml
D.S. Use 1 table-spoon 3 times a day.

A *10 ml and 90 ml
B 1 ml and 99 ml
C 20 ml and 80 ml
D 10 ml and 100 ml
E 3 ml and 97 ml

28. What can technology be used for preparation of starch solution:

A *Mix with a cold water, pour out in a boiling water and heat for 1-2 minutes
B Mix with a hot water, pour out in a cold water
C Dissolve in a cold water and heat
D Dissolve in the bottle for dispensing in a fresh filtered purified water
E Dissolve in a boiling water

29. What is the right technology of the medicine preparation?
Rp.: Spiritus aethylici 70 % 30 ml
Acidi salicylici 0.3

M.D.S. For the skin.

A *Place the substance in the bottle for dispensing and measure alcohol
B Measure the solvent in the auxiliary substance, add the substance, filter in the bottle
C Measure alcohol in the bottle for dispensing and add salicylic acid
D Weigh the substance in the auxiliary bottle and measure the solvent, strain in the bottle for dispensing
E Grind the substance in a mortar, add the solvent and transfer in the bottle for dispensing

30. What is the concentration of Lugol solution for internal use?

A *****5%
B 1 %;
C 10%
D 0.5%
E 3%

31. A pharmacist prepares nasal drops with 10 drops of adrenaline hydrochloride solution. Indicate the quantity of drops if the CC (corection coefficient) is 1.2 :

A *12
B 10
C 20
D 24
E 50

32. What is the type of the dispersion system for this medicine?
Rp.: Dimedroli 0.2
Sol. Natrii bromidi 3 % 20 ml
M.D.S. Use 1 tablespoon 3 times a day.

A *True solution
B Suspension
C Emulsion
D Colloidal solution
E Solution of HMC

33. What is the type of the dispersion system for this medicine?
Rp.: Natrii hydrocarbonatis 2.0
T-rae Valerianae 6 ml
Aquae purificatae 100 ml
M.D.S. Use 1 tablespoon 3 times a day.

A *Opalescense mixture

B Colloidal solution
C Emulsion
D Solution of HMC
E True solution

34. What amount of sodium hydrocarbonate solution (1:20) is used for the mixture preparation?
Rp.: Natrii hydrocarbonatis 2.0
T-rae Valerianae 6 ml
Aquae purificatae 100 ml
M.D.S. Use 1 tablespoon 3 times a day.

A *40 ml
B 10 ml
C 20 ml
D 30 ml
E 50 ml

35. A pharmacist prepared 2 % water solution by grinding a medicinal substance with water in a mortar. What medicinal substance is it?

A *Potassium permanganate
B Calsium gluconate
C Osarsol
D Boric acid
E Potassium bromide

36. A pharmacist prepared 200 ml of 2 % solution of sodium hydrocarbonate. Indicate the amount of sodium hydrocarbonate and water for this medicine?

A *4.0 and 200 ml
B 2.0 and 200 ml
C 4.0 and 196 ml
D 2.0 and 199 ml
E 4.0 and 199 ml

37. A pharmacist dissolves this substance in the acidic solution of hydrochloric acid (1:10). What substance is it?

A *Pepsin
B Tannin
C Osarsol
D Collargol
E Copper sulphate

38. What is the right technology of glycerin solution for preparing boric acid?

**A ***Dissolve in the bottle for dispensing when heating
B Dissove in a mortar when grinding
C Dissolve in the auxiliary bottle at the room temperature
D Grind with alcohol in a mortar and mix with glycerin
E Dissolve in a volumetric flask

39. A pharmacist prepares 100 ml of 1 % solution of ammonia. What is the amount of 10% ammonia solution and water used?

A *10 ml and 90 ml
B 5 ml and 95 ml
C 15 ml and 85 ml
D 20 ml and 80 ml
E 5 ml and 100 ml

40. What amount of aromatic water is used for preparing the mixture?
Rp.: Analgini 2.0
Natrii bromidi 3.0
Aquae Menthae 200 ml
Tinct. Convallariae
Tinct. Valerianae ana 5.0
M.D.S. Use 1 tablespoon 3 times a day.

A *200 ml
B 190 ml
C 185 ml
D 180 ml
E 184 ml

41. A doctor prescribed a medicine with 0.5 g of iodine and 10 ml of purified water. What additional component should be used for preparing the medicine?

A *Potassium iodide
B Potassium bromide
C Sodium hydrocarbonate
D Sodium chloride
E Sodium bromide

42. What technological operation should be used additionally for preparation of copper sulphate solution?

A *Grinding in a mortar with water
B Heating

C Previous dissolution in glycerol
D Previous dissolution in 95% alcohol
E Adding of an absorbent - carbon

43. Calculate a single dose for analgin in this medicine:
Rp.: Analgini 3.0
Kalii bromidi 4.0
Aquae purificatae ad 150 ml
Da. Signa. Use 1 tablespoon 2 times a day.

A *0.3
B 3.0
C 0.6
D 0.9
E 6.0

44. What is the right technology for preparation of this medicine?
Rp.: Natrii tetraboratis 5.0
Glycerini ad 20.0
M.D.S. For greasing.

A *Place sodium tetraborate in the bottle for dispensing, weigh glycerol and heat
B Grind sodium tetraborate in a mortar with glycerol
C Place glyrecol in the bottle for dispensing, add sodium tetraborate and heat
D Measure glycerol in the auxiliary bottle, dissolve sodium tetraborate
E Weigh glycerin in the auxiliary bottle, add sodium tetraborate, heat and filter in the bottle for dispensing

45. What medicinal substance requires using a fresh purified water for preparing the solution?

A *Silver nitrate
B Glucose
C Sodium acetate
D Sodium tetraborate
E Pepsin

46. What concentration of alcohol is used if it is not indicated in the prescription?

A *90 %
B 70 %
C 45 %
D 60 %
E 30 %

47. How should a pharmacist dissolve iodine when preparing Lugol solution?
Rp.: Iodi 0.05
Kalii iodidi 0.2
Aquae purificatae 10 ml
Misce. Da. Signa. Use 2 drops twice a day.

A *In the concentrated solution of potassium iodide
B In 10 % water concentrated solution of potassium iodide
C In 1 % alcohol solution of potassium iodide
D In the diluted solution of potassium iodide
E As a trituration of 1:10

48. The total volume of a liquid medicinal form is calculated as the sum of:

A *volumes of the prescribed liquid ingredients in the prescription
B volumes of all liquid ingredients, which are dosed by mass and by volume
C volumes of concentrated solutions and purified water
D volumes of concentrated solutions and changes of volumes when dissolving dry medicinal substances
E volumes of purified water and changes of volumes when dissolving dry medicinal substances

49. A pharmacist should prepare the concentrated solution of calcium chloride. What should the pharmacist do after preparation of the solution?

A ***Give it to a pharmacist-analyst to carry out the complete chemical analysis
B Filter the solution
C Strain the solution
D Carry out the quantitative analysis of medicinal substances
E Write the writing control passport

50. The concentrated solutions should be prepared in concentrations, which:

A *do not achieve maximum
B are near to maximum
C are low
D are high
E are within the limits of solubility of a substance

51. To prepare the concentrated solution with calcium chloride for the burette-system the following water is used:

A *fresh purified water
B water for injections kept for 3 days
C fresh water for injections

D sterile purified water kept for 3 days
E water for injections

52. A pharmacist prepared the solution of silver nitrate. The solution appeared to be muddy. What should be done by a pharmacist if there is no glass filter at the chemist's?

A *Strain the solution through the cotton washed previously by a hot water
B Filter the solution through a dry paper filter
C Strain the solution through a few layers of gauze
D Strain the solution through a dry cotton
E Prepare the medicine again

53. What concentration of alcohol is used for preparing 50 ml of 1 % alcoholic solution of methylene dark blue?

A *60 %
B 95 %
C 70 %
D 96 %
E 40 %

54. What is the way of analgin dissolving while preparing a mixture?

A *Dissolve in the auxiliary bottle into purified water, strain
B Add as a concentrated solution
C Add in the bottle for dispensing in the end
D Dissolve in the purified water, filter
E Place in the bottle at first

55. What substance require a boiling water for preparing the solution?

A *Boric acid
B Sodium hydrocarbonate
C Sodium chloride
D Sodium bromide
C Ascorbic acid

56. A pharmacist prepares a mixture with ammonia-anise drops. What is the way of their introduction?

A *Mix with an equal amount of the mixture prepared in the additional bottle and transfer it in the bottle
B Add to all mixture in the end
C Mix with concentrated solutions in the auxiliary bottle
D Add in the bottle for dispensing at first

E Mix with a purified water in the auxiliary bottle, strain in the bottle for dispensing

57. Liquid medicinal forms are prepared using the concentrated solution of medicinal substances or using VIC during dissolution of the substances if the prescribed solvent is:

A *purified water
B aromatic water
C glycerol
D alcohol
E polyethylenglycol-400

58. A pharmacist prepared the concentrated solution. What should he do after positive chemical analysis?

A *Filter the solution
B Register for dispensing
C Strain the solution
D Write a WCP
E Place in the bottle

59. A pharmacist added galenic medicines and tinctures into a mixture. What is the right technology?

A *Measure water, concentrated solutions, galenic medicines, tinctures in the bottle for dispensing
B Place tinctures, galenic medicines in the bottle, then add water and concentrated solutions
C Mix with an equal amount of the mixture in the auxiliary bottle
D Add to the mixture in the end and strain
E Measure water, galenic medicines, concentrated solutions and then tinctures in the bottle for dispensing

60. What is a single dose of analgin?
Rp.: Analgini 2.0
Tincturae Convallariae 10 ml
Tincturae Valerianae 20 ml
Aquae purificatae 120 ml
M.D.S. Use 1 tablespoon 3 times a day.

A *0.2
B 0.22
C 2.0
D 0.13

E 0.06

61. What is the right technology of this medicine?
Rp.: Sol. Lugoli 20 ml
D.S. Use 5 drops twice a day with milk.

A *Dissolve iodine into the saturated solution of potassium iodide
B Dissolve iodine in a cold water
C Dissolve iodine in a hot water
D Dissolve iodine in alcohol
E Dissolve iodine in the diluted solution of potassium iodide

62. What is the right technology of dissolving potassium bromide?
Rp.: Tincturae Belladonnae 5 ml
Tincturae Convallariae
Tincturae Valerianae ana 10 ml
Mentholi 0.2
Kalii bromidi 3.0
M.D.S. Use 25-30 drops 3 times a day (Zelenin drops).

A *Dissolve in the equal amount of water
B Dissolve dry substances in belladonna tincture
C Dissolve in the mixture of tinctures
D Add in the bottle for dispensing in the end
E Dissolve in valerian tincture

63. What solvent should be used for preparing the concentrated solution of calcium chloride?

A *Fresh purified water
B Purified water
C Water for injections
D Mint water
E Mineral water

64. A pharmacist prepares drops:
Rp.: Atropini sulfatis 0.01
Aquae purificatae 10 ml
M. D. S. Use 2 drops 2 times a day.
How does he dispense atropine sulphate?

A *As a water solution of 1 % concentrated solution
B As a water solution of 10 % concentrated solution
C As an alcoholic solution of 1 % concentrated solution
D As a trituration of 1:10

E As a trituration of 1:100

65. A pharmacist should prepare a mixture by concentrated solutions. What concentrated solution should be measured at first after measuring the amount of purified water?

A *The solution of caffeine-sodium benzoate (20 %)
B The solution of glucose (40 %)
C The solution of sodium bromide (20 %)
D The solution of ascorbic acid (5 %)
E The solution of magnesium sulphate (25 %)

66. What is the way of dissolving menthol for the medicine preparation?
Rp.: Adonisidi 5 ml
Tincturae Convallariae
Tincturae Valerianae aa 10 ml
Mentholi 0.1
Kalii bromidi 2.0
Misce. Da. Signa. Use 25 drops 3 times a day.

A *Add in the bottle for dispensing in the end
B Dissolve in Convallaria tincture
C Dissolve in some drops of alcohol
D Dissolve in Adoniside
E Dissolve in the mixture of tinctures

67. What concentration of alcohol has the highest bactericidal activity?

A *70%
B 60%
C 90%
D 95%
E 40%

68. What is the total volume of this mixture?
Rp.: Natrii hydrocarbonatis 3.0
Aquae purificatae 200 ml
Sirupi simplicis 10 ml
Liquoris ammonii anisati 5 ml
Misce. Da. Siqna. Use 1 tablespoon twice a day.

A *215 ml
B 200 ml
C 218 ml
D 210 ml

E 205 ml

69. What is the total volume of this mixture?
Rp: Codeini 0.05
Natrii hydrocarbonatis 3.0
Sirupi simplicis 10 ml
Liquoris ammonii anisati 5 ml
Aquae purificatae ad 200 ml
Misce. Da. Siqna. Use 1 tablespoon twice a day.

A *200 ml
B 215 ml
C 218 ml
D 210 ml
E 205 ml

70. At the chemist's shop the quality of purified water is checked:

A *daily
B every shift
C every month
D every quarter of a month
E every year

71. For the complete chemical analysis purified water is transfered to the control-analytical laboratory once every:

A *quarter of a month
B month
C half-year
D year
E week

72. The bacteriological control of purified water is carried out at the sanitary-epidemic station:

A *twice in a quarter of a month
B twice a month
C once a month
D once every quarter of a month
E once a week

73. The shelf-life of purified water is:

A *3 days

B 1 shift
C 1 day
D 1 week
E 5 days

74. A pharmacist should prepare an oil solution. What tableware is used for its preparation?

A *A bottle for dispensing
B An auxiliary bottle
C A volumetric flask
D A cylinder for measuring
E A mortar

75. What concentration of alcohol is used for preparing 1-2 % alcoholic solution of iodine?

A *96%
B 40%
C 70%
D 95%
E 90%

76. What is the concentration of alcohol for preparing resorcinol solution?

A *70%
B 40%
C 90%
D 95%
E 96%

77. What is the concentration of alcohol for preparing levomycetin solution?

A *70 %
B 40 %
C 90 %
D 95 %
E 96 %

78. What concentration of alcohol is used for a preparing 2 % alcoholic solution of diamond green?

A *60%
B 90%
C 70%

D 95%
E 96%

79. To purify liquid medicinal forms at the chemist's shop the filtration stage is used usually. What solutions are filtered?

A *Concentrated solutions, solutions for injections and irrigation, ophthalmic medicinal forms, solutions for newborns
B For internal use
C For external and internal use
D For external use
E For inhalation

80. A pharmacist prepared drops according to the formula:
Rp.: Tincturae Belladonnae 5 ml
Adonisidi 5 ml
Tincturae Convallariae 10 ml
M.D.S.: For 20 drops 3 times a day.
Which order is correct for the alcoholic solution according to the normative documentation?

A *Adoniside, Belladonna tincture, Convallaria tincture
B Adoniside, Convallaria tincture, Belladonna tincture
C Belladonna tincture, Adoniside, Convalaria tincture
D Belladonna tincture, Convallaria tincture, Adoniside
E Convallaria tincture, Belladonna tincture, Adoniside

81. What liquid is it necessary to add in the bottle for dispensing at first according to the Order of the Ukrainian MPH No. 197?

A *Syrup of sugar
B Convallaria tincture
C Belladonna tincture
D Adoniside
E Essential oil of Eucalyptus

82. A pharmacist should prepare drops according to the prescription:
Rp.: Adonisidi
Tincturae Belladonae ana 5 ml
Tincturae Valerianae
Tincturae Convallariae ana 10 ml
M.D.S. 30 drops 3 times a day.
What ingredient should be measured off in the bottle for dispensing at first?

A *Adoniside

B Tincture of Valerian
C The mixture of Belladonna tincture and Adoniside
D Tincture of Convallaria
E Tincture of Belladonna

83. Alcoholic liquids are added to mixtures:

A *last with increasing the concentration of alcohol
B first
C after dissolving poisonous and narcotic substances (till concentrates are obtained)
D last with decreasing the concentration of alcohol
E as prescribing in the formula

84. Aromatic water is prescribed as a dispersion medium in the prescription. When should it be added while preparing the mixture?

A *First
B After concentrated solutions
C Before adding alcoholic solutions
D Last because they contain oils
E After dissolving dry substances

85. What should be put first while preparing mixtures in the auxiliary bottle?

A *Purified water
B Dry substances of the general list
C Concentrated solutions
D Medicinal substances prescribed first in the formula
E Tinctures

86. What should be put in the end while preparing mixtures in the bottle for dispensing?

A *Tincture of Valerian
B Purified water
C Potassium bromide
D 20 % solution of sodium bromide
E Sugar syrup

87. What is the order of adding pectoral elixir to mixture?

A *Mix with the equal amount of the mixture prepared in the auxiliary bottle and transfer in the bottle for dispensing
B Add in the auxiliary bottle at first
C Add to the mixture prepared in the end

D Mix with purified water in the auxiliary bottle and strain in the bottle for dispensing
E Add in the bottle for dispensing at first

88. Purification of mixtures from particulate matter is carried out by the method of:

A *straining
B filtering
C centrifugation
D distillation
E sublimation

89. What is the peculiarity of the technology for 10 % solution of calcium gluconate for internal use?

A *Dissolve when heating and purification by activated carbon
B Grind in the mortar preliminary and dissolve in a warm water
C Use filtered water
D Dissolve in part of alcohol dilute to the volume with water
E Add acetic acid for better dissolving

90. What is the peculiarity of preparing furacillin solution?

A *Dissolve in water while heating in the flask till complete dissolution of the medicine with isotonic solution of sodium chloride
B Dissolve in water while heating in the flask till complete dissolution of the medicine
C Grind in the mortar with some water, add the rest of water
D Grind in the mortar with some drops of alcohol, add water according to the Deryagin rule
E Shake in the bottle for dispensing till complete dissolution

CHAPTER IV

SOLUTIONS OF HIGH-MOLECULAR COMPOUNDS (HMC). COLLOIDAL SOLUTIONS

1. What is the peculiarity of protargol introductiona while preparing a solution?

A *Apply by a thin layer on the surface of water and wait to complete dissolution
B Dissolve while shaking in a dark bottle
C Dissolve in the previously heated water
D Grind with water at the room temperature
E Dissolve in the acidic water

2. A pharmacist prepared 2 % solution of collargol. What is the right technology?

A *Dissolve while grinding with purified water in a mortar
B Dissolve in the bottle for dispensing in purified water
C Place on the surface of water and wait to complete dissolution
D Dissolve in the heated water in the auxiliary bottle
E Dissolve when grinding with alcohol in a mortar

3. What is an unlimited sweeling HMC?

A *Pepsin
B Starch
C Gelatonose
D Pectin
E Methylcellulose

4. What solution of the limited sweeling HMC is registered by the label “heat before use”?

A * Gelatinose
B Trypsin
C Pepsin
D Methylcellulose
E Pancreatin

5. What substance should dissolved in acidic water by the solution of hydrochloric acid (1:10)?

A *Pepsin
B Tannin
C Osarsol
D Collargol

E Copper sulphate

6. What substance is the limited sweeling one?

A *Gelatinose
B Ichthyol
C Tannin
D Pepsin
E Belladonna extract

7. What substance is limited sweeling in a hot water and unlimited sweeling in a cold water?

A *Methylcellulose
B Gelatinose
C Starch
D Pepsin
E Belladonna dense extract

8. What concentration of collargol is required for the following technology: place a substance in the bottle for dispensing, add filtered water and shake?

A * To 1 %
B To 2 %
C To 5 %
D To 10 %
E To 20 %

9. What substance is a protected colloid?

A *Protargol
B Basic bismuth nitrate
C Potassium iodide
D Camphor
E Sodium chloride

10. What is the optimal technology for this substance?
Rp.: Sol. Protargoli 0.3 % 10 ml
Glycerini 1.0
D.S. For lotion.

A * Grind protargol with glycerin in a mortar and add water
B Dissolve glycerin with water and add protargol
C Dissolve protargol in the auxiliary bottle and add glycerin
D Weigh protargol in the bottle, dissolve in water and add glycerin

E Put glycerin in the bottle, add water and protargol

11. What is the right way of pepsin dissolution?
Rp.: Acidi hydrochlorici 2 % 100 ml
Pepsini 2.0
Da. Signa. Use 1 tablespoon 3 times a day before meals.

A *In the previously prepared solution of hydrochloric acid with water
B In the concentrated solution of hydrochloric acid
C In 98 ml of purified water
D In 10 ml of purified water
E In purified water while mixing

12. To prepare medicines solutions of high-molecular compounds are used. What the technological operation is used previously while preparing a solution of limited sweeling substances?

A *Pour out by the optimal amount of purified water for sweeling
B Dissolve in a small amount of hydrochloric acid
C Dissolve in filtered purified water
D Grind with a small amount of purified water
E Dissolve in purified water when heating

13. What is the peculiarity of preparation of 100.o g of 2 % solution of gelatose?

A *Dissolve sweeled gelatose in water when heating
B Dissolve gelatose in the alkaline water
C Dissolve gelatose in the boiling water
D Dissolve gelatose in the acidic water
E Grind gelatose with alcohol and dissolve in water when heating

14. What is the rational technology for preparing starch solution?

A * Mix starch with a cold water, dissolve in a warm water when heating
B Mix starch with a hot water, dissolve in a cold water
C Mix starch with a cold water
D Mix starch with a hot water
E Mix starch with glycerol and dissolve in a cold water

15. A pharmacist prepared the solution of methylcellulose (MC). What is the optimal technology for preparing the solution?

A *Mix MC with a hot water for sweeling, then dissolve in a cold water
B Dissolve MC in a cold water
C Apply MC on the surface of a hot water by a thin layer

D Grind MC with a cold water in a mortar
E Mix MC with ½ of a hot water, add ½ of a cold water

16. What is the right order of mixing for preparing this medicine?
Rp.: Pepsini 3.0
Acidi hydrochlorici diluti 3 ml
Aquae purificatae 200 ml
M. D. S. Use 1 tablespoon 2 times a day.

A *Purified water, solution of hydrochloric acid, pepsin
B Purified water, pepsin, solution of hydrochloric acid
C Pepsin, purified water, solution of hydrochloric acid
D Solution of hydrochloric acid, pepsin, purified water
E Solution of hydrochloric acid, purified water, pepsin

17. A pharmacist prepares a solution of HMc of the medicine, which has a spherical shape of the molecule. What is this substance?

A *Hemoglobine
B Gelatose
C Glycogen
D Stach
E Pancreatine

18. The ultramicroheterogenous system having a micelle as a structural unit is called:

A *colloidal solution
B high molecular compound
C true solution
D suspension
E emulsion

19. A pharmacist prepared the solution of collargol when grinding with purified water in a mortar. What is the concentration of this solution?

A *More than 1 %
B More than 5 %
C To 2 %
D To 1 %
E More than 2 %

20. What auxiliary material should be used for straining the solution of collargol?

A *A peace of cotton washed by a hot water
B Cotton

C Two layers of gauze
D Cotton and filter
E Paper filter

21. What is the content of silver oxide in protargol?

A ***8 %
B 30 %
C 93 %
D 70 %
E 73 %

22. What is the content of silver oxide in collargol?

A *70 %
B 8 %
C 93 %
D 30 %
E 73 %

23. A pharmacist prepares 3 % solution of collargol. What tableware does he use for preparation?

A * Mortar
B Auxiliary bottle
C Bbottle for dispensing
D Porcelain cup
E Bottle

24. What concentration of starch solution is used if it is not indicated by a doctor?

A ***2 %
B 1 %
C 5 %
D 10 %
E 15 %

25. What solution can not be filtered through ash filter?

A *Protargol
B Starch
C Sodium bromide
D Glucose
E Pepsin

26. What substance is semi-colloidal?

A ***Tannin**
B Pepsin
C Collargol
D Ichthyol
E Gelatose

27. What is the right way of sodium bromide introduction in this solution for prevention of the salting out process?
Rp.: Mucilaginis Amyli 100.0
Natrii bromidi 2.0
Misce. Da. Signa. For two enemas.

A * As a water solution
B As a thin powder
C As an oil solution
D As an alcoholic solution
E As a powder grinded preliminary with alcohol

28. A pharmacist prepares the solution of pepsin. What pH index causes a high activity of the solution prepared?

A * pH 1.8-2.0
B pH 7.0-8.0
C pH 5.0
D pH 14.0
E pH 8.0-9.0

29 A pharmacist prepares a colloidal solution. What the action does it have?

A * Local
B Resorptive
C Penetrative
D Osmotic
E Absorptive

30. What solution of HMC should be registered by the label "Shake well before using"?

A * Solution of starch
B Solution of gelatose
C Solution of methylcellulose
D Solution of cellulose

E Solution of collagen

31. A chemist's shop got the following prescription:
Rp.: Mucilaginis Amyli 50.0
Da. Signa. For the enema purposes.
How much starch and distilled water did a pharmaceutist use in order to make this medicine?
A* 1.0 g of starch; 49 ml of distilled water
B 1.0 g of starch; 50 ml of distilled water
C 2.0 g of starch; 48 ml of distilled water
D 5.0 g of starch; 45 ml of distilled water
E 10.0 g of starch; 40 ml of distilled water

CHAPTER V

SUSPENSIONS

1. A pharmacist prepared a suspension by the dispersion method. What technological stage is not used for its preparation?

A *Straining
B Grinding
C Mixing
D Packing
E Registration

2. A pharmacist prepares a water suspension with zinc oxide. What concentration of the substance is required preparing it by mass?

A *3 % and more
B 1 %
C 1.5 %
D 2 % and less
E 0.5 %

3. A pharmacist prepares a suspension by the condensation method. What substances form precipitation?

A *Calcium chloride with sodium hydrocarbonate
B Caffeine-sodium benzoate with zinc oxide
C Sodium bromide with camphor
D Potassium bromide with sodium benzoate
E Magnesium sulphate with potassium iodide

4. What method is used for preparing a suspension with basic bismuth nitrate?

A *Method of “making muddy”
B Method of the physical condensation
C Method of the chemical condensation
D Method of the solvent replacement
E Continental method

5. What amount of liquid should be added to 10.0 g of zinc oxide while grinding according to the Deryagin rule?

A *5 ml
B 10 ml
C 2 ml
D 1 ml
E 0.5 ml

6. What auxiliary substances increase the density of a suspension for stability of the medicinal form?

A *Syrup of sugar, glycerol
B Purified water
C Alcohol
D Dimethylsulphoxide
E Trilon B

7. A pharmacist prepared a suspension with 2.0 g of menthol. What amount of 5 % solution of methylcellulose did he use for stabilisation of the suspension?

A *4.0
B 0.5
C 1.0
D 0.4
E 2.0

8. A pharmacist prepared a suspension with a hydrophobic substance. What is a stabilizer for this dispersion system?

A *Tween-80
B Sodium chloride
C Solution of hydrochloric acid
D Solution of sodium hydroxide
E Esilon

9. Indicate hydrophobic substances:

A *Camphor, menthol
B Sodium hydrocarbonate, sodium sulphate
C Boric acid, calcium carbonate
D Zinc oxide, talc
E White clay, bentonite

10. A pharmacist used a green potash soap as a stabilizer of the suspension. What is the substance prescribed in the suspension composition?

A * Sulfur
B Phenylsalicylate
C Menthol
D Basic bismuth nitrate
E Camphor

11. What stabilizer is used for increasing the stability of the suspension with a hydrophobic substance?

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

12. A pharmacist prepares the suspension whithout a stabilizer. What is the substance?

A *Magnesium oxide
B Camphor
C Sulfur
D Menthol
E Phenylsalicylate

13. A pharmacist prepared a suspension. What is the amount of liquid according to the Deryagin rule?

A *0.4-0.6 ml and 1.0 of a medicinal substance
B 1.0-0.8 ml and 1.0 of a medicinal substance
C 1.5-0.7 ml and 1.0 of a medicinal substance
D 0.9-2.0 ml and 1.0 of a medicinal substance
E 0.1-1.0 ml and 1.0 of a medicinal substance

14. What amount of the stabilizer (potash soap) should be used for stabilization of 1.0 g of sulfur?

A *0.1-0.2 g
B 0.5 g
C 1.0 g
D 2.0 g
E Not more than 3.0 g

15. What is the cause of suspension forming while mixing ammonia anise drops with water solutions?

A * Solvent replacement
B Unmixing with water solutions
C Undissolving in the disperse medium
D Exceeding of solubility limits
E Chemical interaction

CHAPTER VI

EMULSIONS

1. What is the rational way of introduction of menthol into an oil emulsion?

A *Dissolve in oil before emulsifying
B Grind with the prepared emulsion
C Dissolve in water, prepared for dilution of the primary emulsion
D Dissolve in the prepared emulsion when heating
E Add into the primary emulsion

2. A pharmacist prepared the emulsion. What oil did he use?

A *Peach
B Castor
C Vaselin
D Mint
E Balm

3. What substance should be introduced into the emulsion as the suspension type?

A *Phenylsalicylate
B Camphor
C Caffeine-sodium benzoate
D Sodium bromide
E Menthol

4. What is the rational way of zinc oxide introduction into the emulsion?

A *By the suspension type (incorporated into the prepared emulsion)
B By dissolving in oil
C By grinding with water for diluting of the primary emulsion
D By dissolving in water for preparing the primary emulsion
E By dissolving in the prepared emulsion

5. A pharmacist prepared 100.0 g of the oil emulsion. What amount of oil and emulsifier (gelatose) did he use?

A *10.0 and 5.0
B 10.0 and 15.0
C 7.5 and 10.0
D 10.0 and 5.0
E 1.5 and 0.75

6. A pharmacist prepares 100.0 g of the oil emulsion. What amount of oil should be used if it is not indicated in the prescription?

A *10.0
B 20.0
C 30.0
D 15.0
E 50.0

7. A doctor prescribed 300.0 g of the castor emulsion. What amount of castor oil will be weighed by a pharmacist?

A *30.0 g
B 60.0 g
C 15.0 g
D 3.0 g
E 0.3 g

8. A pharmacist prepared 150.0 g of the emulsion. What amount of oil should be used if it is not indicated in the prescription?

A * 15.0
B 10.0
C 30.0
D 5.0
E 20.0

9. A doctor prescribed 100.0 g of the oil emulsion. Indicate the amount of oil, gelatose and purified water used for the first emulsion preparation by the continental method?

**A ***10.0; 5.0; 7.5 ml
B 20.0; 10.0; 30 ml
C 5.0; 10.0; 7.5 ml
D 10.0; 5.0; 1.5 ml
E 5.0; 5.0; 5 ml

10. What is the rational way of anesthesin introduction in the olive emulsion?

A *Dissolve anesthesin in oil before preparing the primary emulsion
B Dissolve anesthesin in the prepared emulsion
C Dissolve anesthesin in purified water
D Dissolve anesthesin in the primary emulsion
E Dissolve anesthesin in alcohol and add to the first emulsion

11. What is the way of menthol introduction in the oil emulsion?

**A ***Dissolve in oil at the temperature of 40-50 °C
B Add to the prepared emusion
C Dissolve at the temperature of 40-50 °C in water
D Add by the suspension type in the prepared emulsion
E Mix with an emulsifier and add water

12. What factors cause stratification of the emulsion more quickly?

A *Adding a strong electrolytes
B Diluting by water
C Diluting by oil
D Adding an excess of the emulsifier
E Adding syrups

13. What is the rational way of phenylsalicylate introduction in the emulsion for internal use?

**A ***As a suspension type in the prepared emulsion
B Dissolve in oil
C Dissolve in water for diluting the primary emulsion
D Dissolve in water for preparing the primary emulsion
E Dissolve in the prepared emulsion

14. A pharmacist prepared the emulsion of o/w type. What determines the type of the emulsion?

**A ***The nature and properties of an emulsifier
B The amount of oil
C The amount of purified water

D The nature of medicinal substances
E The way of introduction of medicinal substances

16. A pharmacist prepared the emulsion with basic bismuth nitrate. What liquid did he use for grinding?

**A ***Prepared emulsion
B Oil
C Purified water
D Alcohol
E Vaselin oil

17. What is the way of introduction water soluble substances in the emulsion?

**A ***Dissolve in a part of water intended for diluting of the emulsion
B Add to the prepared emulsion
C Add in the oil phase
D Add in the primary emulsion
E Dissolve in water intended for preparing the primary emulsion

18. A pharmacist prepared 100.0 g of the oil emulsion with the emulsifier – 5 % solution of methylcellulose. What amount of oil and the emulsifier did he use for preparing medicine?

**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

19. What is the optimal way of camphor introduction in the oil emulsion?

**A ***Dissolve in oil
B Dissolev in alcohol
C Dissolve in water
D Dissolve in esther
E Dissolve in glycerol

20. What is the role of gelatose in the composition of the emulsion?

**A ***Emulsifier
B Preservative
C Solvent
D Corigent of taste
E Antioxidant

21. A pharmacist prepares the emulsion with olive oil for internal application. What surface active substance is used for preparation of this emulsion?

A ***Gelatose**
B Emulsifier No.1
C Sodium laurylsulphate
D Green soap
E Triethanolamine

22. What amount of castor oil should be used for preparing 200.0 g of the emulsion?

A *20.0 g
B 200.0 g
C 10.0 g
D 20 ml
E 10 ml

23. According to the Order of MPH of Ukraine No.197 07.09.93 oil emulsions are prepares:

A *the mass method
B the mass-volume method
C the volume method
D the volume method if the concentration of dry substances is 10 %
E the mass-volume method if the concentration of dry substances is 20 %

24. A pharmacist prepared the emulsion. What is the way of the oil-soluble substance introduction in it?

A *Dissolve in oil for the primary emulsion preparation
B Dissolve in purified water
C Introduce by the suspension type
D Add in the prepared emulsion
E Add to the emulsifier

25. What amount of Tween-80 should be used for preparing 100.0 g of the emulsion?

A *2.0
B 4.0
C 6.0
D 10.0
E 1.0

26. A pharmacist prepared 200.0 g of the oil emulsion. What is the balance used for

weighing 20.0 g of peach oil?

A * Prescription balance
B Analytical balance
C Manual balance 20
D Manual balance 100
E Manual balance 1

27. A pharmacist prepared the oily emulsion with Valerian tincture. What rational method of tincture introduction should be chosen?
A *Add to the emulsion prepared
B Mix with oil
C Mix with the primary emulsion
D Mix with a part of water intended for dilution of the primary emulsion
E Mix with water for preparing the primary emulsion

CHAPTER VII

INFUSIONS AND DECOCTIONS

1. A pharmacist prepared 180 ml infusion of Lily-of-the-valley herb (*Convallaria*). What amount of the plant raw material did he use?

A *6.0
B 10.0
C 18.0
D 0.5
E 9.0

2. A pharmacist prepared 150 ml of Liquorice root (*Glycyrrhiza*) infusion. What amount of the plant raw material did he use?

A *15.0
B 6.0
C 7.5
D 20.0
E 1.5

3. A doctor prescribed the infusion-mixture. A pharmacist checked single and daily doses. What plant raw material was prescribed?

A *Digitalis leaves
B Vallerian roots and rhizoms
C Althea root
D Motherwort herb
E Common sage leaves

4. What is the duration of infusing and cooling in preparation of the water extract of Mint leaves?

A *Infusing 15 min and cooling 45 min
B Infusing 30 min and cooling 10 min
C Infusing 10 min and cooling 2 hours
D Infusing 12 min and cooling 5 hours
E Infusing 16 min and cooling 6 hours

5. What is the duration of extraction in preparation of 2 litres of water extract of Manzanita leaves (*Uvae Ursi*)?

A * Infusing 40 min and straining without cooling
B Infusing 30 min and cooling 10 min

C Infusing 10 min and cooling 2 hours
D Infusing 15 min and cooling 45 min
E Infusing 30 min, whithout cooling

6. What is the duration of extraction in preparation of 100 ml of water extract of Rhamnus barks (*Frangula*)?

A * Infusing 30 min and straining without cooling
B Infusing 30 min and cooling 10 min
C Infusing 10 min and cooling 2 hours
D Infusing 15 min and cooling 45 min
E Infusing 40 min and cooling 10 min

7. A pharmacist used the consumption coefficient in calculation of the amount of the raw material and water while preparing the water extract. What is the plant raw material?

A *Marshmallow (*Althea*) root
B Vallerian roots and rhizoms
C Liquorice root
D Rhamnus barks
E Senna leaves

8. What group of biological active substances requires observance of the temperature duration of the extraction process?

A *Cardiac glycosides
B Saponins
C Tannins
D Alkaloids
E Anthraglycosides

9. A pharmacist strain the water extract after complete cooling (3-4 hours). What is the plant raw material?

A * Senna leaves
B Eucalipt leaves
C Peppermint leaves
D Marsh herb
E Rose fruits

10. What plant raw material is used for preparing a decoction?

A *Clusterberry leaves
B Peppermint leaves

C Everlasting flowers
D Marjoram herb
E Vallerian roots and rhizomes

11. A pharmacist used dry standardized Thermopsis extract (1:1) while preparing 200 ml of the infusion. What amount of the dry extract did he use?

A *0.5
B 1.0
C 2.0
D 5.0
E 10.0

12. A pharmacist used liquid standardized Spring pheasant's eye (*Adonis vernalis*) extract (1:2) while preparing 150 ml of the infusion. What amount of the liquid extract did he measure?

A *10 ml
B 5 ml
C 2 ml
D 7.5 ml
E 20 ml

13. A pharmacist prepares a water extract from Thermopsis herb. What ingredients does he use?

A * Thermopsis herb, solution of hydrochloric acid (1:10), purified water
B Thermopsis herb, sodium hydrocarbonate, purified water
C Thermopsis herb, sodium chloride, purified water
D Thermopsis herb, purified water
E Thermopsis tincture, purified water

14. A pharmacist prepared 150 ml of the decoction. What is duration of extracting and cooling?

A *30 min and 10 min
B 35 min and 10 min
C 20 min and 20 min
D 15 min and 45 min
E 20 min and 30 min

15. A pharmacist prepared 100 ml of Oak bark (*Quercus*) decoction. What amount of plant raw material and purified water did he use ($C_{\text{water-absorption}}$ of Oak bark is 2.0)?

A *10.0 and 120 ml

B 20.0 and 140 ml
C 10.0 and 100 ml
D 0.25 and 100 ml
E 5.0 and 110 ml

16. A pharmacist prepared 200 ml of Bistort rhizomatous decoction. What amount of the plant raw material and purified water did he use ($C_{water\text{-}absorption}$ of Bistort rhizomatous is 2.0)?

A *20.0 and 240 ml
B 10.0 and 200 ml
C 20.0 and 200 ml
D 0.5 and 200 ml
E 5.0 and 210 ml

17. A pharmacist prepared 150 ml of Field Horsetail herb (*Equiseti*) infusion. What amount of the plant raw material and purified water did he use ($C_{water\text{-}absorption}$ of Field Horsetail herb is 3.0)?

A *15.0 and 195 ml
B 5.0 and 165 ml
C 10.0 and 150 ml
D 5.0 and 150 ml
E 15.0 and 105 ml

18. A pharmacist prepared 100 ml of Chamomile flowers (*Chamomile*) infusion. What amount of the plant raw material and purified water did he use ($C_{water\text{-}absorption}$ of Chamomile flowers is 3.4)?

A *10.0 and 134 ml
B 10.0 and 90 ml
C 5.0 and 117 ml
D 10.0 and 100 ml
E 3.3 and 110 ml

19. What fresh plant raw material should be heated in the case of drying **(**t=100°C) for 1 hour before preparing a decoction?

A *Rhamnus bark
B Oak bark
C Snowball bark
D Senna leaves
E Vitis idaea leaves

24. What plant raw material requires the following technology of water extract preparation: wash the plant raw material by a hot water, add a hot water in the ratio of 1:30 and shake for 15 min, strain?

A *Flax seeds
B Elder flowers
C Rhamnus bark
D Marshmallow root
E Snowball fruits

25. What plant raw material should have the particle size not more than 3 mm after grinding?

A *Roots
B Leaves
C Herb
D Seeds
E Flowers

26. A pharmacist prepared the infusion of Marshmallow (*Althea*) root. What ratio of the plant raw material and the extragent did he use?

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

27. What is the ratio for the Valerian root and rhizomatous infusion?

A *1:30
B 1:400
C 1:10
D 1:20
E 1:40

28. A pharmacist heated the infuser on the water bath for about 15 min. What is the material used for the infuser?

A *Porcelain
B Stainless steel
C Aluminium
D Enamelled metal
E Wood

29. A pharmacist prepares a water extract. What is the right order of introduction of tinctures, liquid extracts, alcoholic solutions, syrups into these mixtures?

A *In the bottle for dispensing in the end
B In the infuser before heating
C In the infuser after extracting
D In the cylinder for measuring, to the water extract strained
E In the auxiliary bottle, after dissolving dry substances

30. What is the peculiarity of preparing Chamomile flowers (*Chamomile*) infusion?

A *The process of extraction is conducted in the infuser tightly closed with a cover
B The process of extraction is conducted in the acidic medium
C The process of extraction is conducted in the alkaline medium
D The non-grinded plant raw material is used
E Strain a hot infusion without cooling

31. What is the peculiarity of preparing Liquorice root (*Glycyrrhiza*) decoction?

A *In the presence of sodium hydrocarbonate
B In the presence of hydrochloric acid
C By cold maceration
D Without mixing
E According to the general rules of preparing decoctions

32. What is the ratio for infusion of Digitalis leaves and Thermopsis herb?

A *1:400
B 1:200
C 1:50
D 1:30
E 1:10

33. What is the ratio for Manzanita (*Uvae ursi*) leaves decoction?

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

34. What the plant raw material requires using the cold maceration method while preparing a water extract?

A *Marshmallow (*Althea*) root
B Vallerian roots and rhizomas
C Manzanita leaves
D Rhamnus barks
E Peppermint leaves

35. What is the ratio for Oak (*Quercus*) bark decoction?

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

36. What is the peculiarity of the infusion formulation from Spring pheasant's eye (*Adonis vernalis*) herb containing cardiac glycosides?

A *Extraction in the neutral medium
B Extraction in a weak alkaline medium
C Extraction in the alkaline medium
D Extraction in a weak acidic medium
E Extraction in the acidic medium

37. What is the peculiarity of the saponin extraction?

A *Extraction in the alkaline medium
B Extraction in a strong acidic medium
C Extraction in the neutral medium
D The medium does not change the extraction process
E Extraction in a weak acidic medium

38. What is the time for cooling of Senna leaves decoction?

A *3 hours
B 45 min
C 10 min
D Cooling is not needed
E 15 min

39. What is the right technology of preparing Marshmallow (*Althea*) root infusion?

A *Cool maceration for 30 min and straining without pressing of the raw material
B Heating for 30 min, cooling – 10 min, straining
C Heating for 30 min, straining without cooling

D Heating on the water bath for 15 min and pressing
E Pressing of the raw material after infusing at the room temperature

40. What is the peculiarity of alkaloids extraction?

A * Extraction in a weak acidic medium
B The medium does not change the extraction process
C Extraction in the alkaline medium
D Extraction in the neutral medium
E Extraction in a weak alkaline medium

41. What is the way of introduction of standardized extracts-concentrates of the plant in the mixture?

A *Dissolve in water into the auxiliary bottle
B Dissolve in a hot water
C Dissolve in concentrated solutions
D Dissolve in a mixture of water with concentrated solutions
E Dissolve in tinctures

42. A dostor prescribed 100 ml of the infusion of 0.25 g of Thermopsis herb. What amount of a dry extract-concentrate of Thermopsis herb (1:1) should a pharmacist use?

A *0.25
B 0.5
C 0.3
D 0.2
E 0.1

43. What plant raw material should have the particle size not more than 5 mm after grinding?

A * Leaves
B Roots
C Bark
D Seeds
E Rhizomas

44. What is the right way of hexamethylenetetramine introduction in the mixture-infusion containing the Manzanita decoction?

A *Dispense as dosed powders separately
B Add into the infuser before heating
C Dissolve into the water extract prepared
D Dissolve in the bottle for dispensing

E Add into the infuser after extraction

45. What plant raw material can be extracted together in one infuser?

A *Peppermint leaves, Chamomile flowers
B Peppermint leaves, Manzanita leaves
C Peppermint leaves, Marshmallow root
D Peppermint leaves, Rhamnus bark
E Peppermint leaves, Flax seeds

46. What kind of plant raw material can be used for the infusion preparation?

A * Vallerian roots and rhizomas
B Rhubarb root
C Oak bark
D Snowball bark
E Rhamnus bark

47. What plant raw material requires checking of doses?

A *Belladonna leaves
B Vallerian roots and rhizomas
C Marshmallow root
D Motherwort herb
E Common Sage leaves

48. What is the ratio for Lily-of-the-valley (*Convallaria*) herb infusion?

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

49. What amount of the plant raw material is used for preparation of 200 ml of Marshmallow (*Althea*) root infusion ($C_{consumption}$ is 1.3)?

A *13.0
B 20.0
C 10.0
D 6.5
E 5.0

50. A pharmacist prepared 200 ml of Oak bark decoction. When should it be strained?

A *Immediately after removal from the water bath
B In 10 min
C After compelete cooling
D In 3-4 hours
E In 45 min

51. What is the shelf-life for infusions, decoctions, mucilages at the chemist's?

A *Two days
B Day
C Ten days
D Three days
E Five days

52. Infusions from the plant raw material with more quantity of high-molecular compounds are known as:

A *mucilages
B infusions
C decoctions
D extracts
E tinctures

CHAPTER VIII

LINIMENTS. OINTMENTS

1. A pharmacist prepared the suspension liniment. What is the way of dry substances introduction?

A *Grind in the mortar according to the Deryagin rule with liquid components
B Weigh dry substances in the bottle for dispensing and add liquid components
C Measure liquid components in the mortar and add dry substances
D Mix with liquid components in the auxiliary bottle
E Grind dry substances in a porcelain cup and mix with liquid components

2. A pharmacist prepared the ointment-solution with the lipophilic base. What substance forms an ointment of this type?

A *Menthol
B Novocain
C Dermatol
D Starch
E Sulfur

3. What substance introduced into the vaselin base is heated to 40°C?

A *Camphor
B Anaesthesin
C Benzoic acid
D Streptocid
E Vinilin

4. What substance forms the ointment-suspension on the lipophilic base?

A *Xeroform
B Protargol
C Menthol
D Tannin
E Vegetable extracts

5. What substance forms the ointment-suspension on the lipophilic base?

A *Zinc oxide
B Protargol
C Wax
D Ichthyol
E Potassium iodide

6. What is the peculiarity of the paste preparation?
Rp.: Zinci oxydi
Amyli ana 10.0
Vaselini 20.0
Misce ut fiat pasta
Da. Signa. Apply on the skin.

A *Melt vaselin for grinding of medicinal substances
B Grind zinc oxide and starch with alcohol
C Grind zinc oxide and starch with vaselin oil
D Mix the mixture of medicinal substances with a non-melted base
E Grind medicinal substances with glycerol

7. What is the way of the dry substance introduction in the medicinal form?
Rp.: Unguenti Resorcini 1.5% 10.0
Da. Signa. For wounds.

A *Grind with some drops of vaselin oil
B Grind with some drops of alcohol
C Grind with some drops of water

D Add to the melted vaselin
E Grind with a part of vaselin

8. What is the way of the dry substance introduction in the base?
Rp.: Streptocidi 1.0
Vaselini 9.0
Misce ut fiat unquentum
Da. Signa. For burns.

A * Grind Streptocid with 0.5 g of the melted vaselin
B Grind Streptocid with 4.5 g of the melted vaselin
C Grind Streptocid with 0.5 g of the non-melted vaselin
D Grind Streptocid with 4.5 g of the non-melted vaselin
E Grind Streptocid with 9.0 g of the melted vaselin

9. What is the type of a medicinal form?
Rp: Xeroformii
Picis liquidae Betulae ana 3.0
Olei Ricini 100.0
Misce. Da. Signa. For wounds.

A *Liniment
B Ointment-emulsion
C Paste
D Combined ointment
E Ointment-solution

10. What concentration of ointment is prepared if it is not indicated by a doctor?

A *10 %
B 5 %
C 1 %
D 20 %
E 2 %

11. What amount of xeroform is used for preparation of 50.0 g of xeroform ointment?

A * 5.0
B 10.0
C 3.0
D 2.5
E 0.5

12. A pharmacist adds paraffin while preparing an ointment. What role does it play?

A *Thickening agent
B Base
C Preservative
D Stabilizer
E Emulsifier

13. A pharmacist prepared the liniment-suspension of Vishnevsky. Indicate the way of xeroform introduction.

A *Grind as a dry substance, mix with a half amount of tar
B Grind with alcohol
C Grind as a dry substance, mix with all amount of tar
D Dissolve into all amount of oil
E Grind, mix with oil

14. What hydrophobic base can be used for preparing the ointment with a surface action?

A *Vaselin
B Wax
C Cacao butter
D Spermaceti
E Bentonites

15. A pharmacist dissolves a substance into the lipophilic base heated to 40°C. What is this substance?

A *Menthol
B Dermatol
C Xeroform
D Salicylic acid
E Novocaine

16. What is the peculiarity of introduction of zinc oxide while preparing a paste?

A * Grind into the pre-heated mortar with all melted base
B Grind with starch and glycerol
C Grind with ether
D Grind with alcohol
E Grind with starch and the melted base

17. A pharmacist prepares 50.0 g of the zinc ointment. What amount of zinc oxide and vaselin are used?

A *5.0 g and 45.0 g

B 10.0 g and 40.0 g
C 2.5 g and 47.5 g
D 1.0 g and 49.0 g
E 0.5 g and 49.5 g

18. What is the way of protargol introduction into the ointment base while preparing a ointment for nose?

A *Firstly grind with glycerol, then with water
B Grind with water or alcohol
C Grind with alcohol or ether
D Firstly grind with a base, then with glycerol
E apply by a thin layer on the surface of water

19. What is the way of novocaine introduction into the vaselin-lanolin base?

A * Preliminary dissolve in the minimal amount of water
B Grind with glycerol
C Grind with alcohol or ether
D Grind with a part of the melted base
E Dissolve in the melted base

20. What is the order of melting medicines?
Rp.: Cerae flavi 4.0
Cetacei 3.0
Lanolini anhydrici 18.0
Olei Amygdalari 35.0
Misce ut fiat unquentum
Da. Signa. Ointment for hands.

A *Wax – spermaceti – lanolin – almond oil
B Almond oil – spermaceti – wax – lanolin
C Almond oil – wax – lanolin – spermaceti
D Lanolin – wax – almond oil – spermaceti
E Lanolin – wax – spermaceti – almond oil

21. What emulsifier should be used for preparing the emulsion base of Kutumova?

A *Emulsifier T-2
B Tween -80
C Solution of methylcellulose
D Span-80
E Anhydrous lanolin

22. What is a water soluble substance, but it introduced in dermatological ointment as a suspension type?

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

23. What is the way of ephedrine hydrochloride introduction into a water-emulsion base?

A *Previously dissolve in the minimal amount of water
B Grind with glycerol
C Grind with alcohol or ether
D Grind with a part of the melted base
E Dissolve in the melted base

24. A pharmacist prepared a liniment-solution. What tableware for preparation did he use?

A *Bottle for dispensing
B Cylinder
C Auxiliary bottle
D A mortar
E Cylinder for measuring

25. What substance forms the homogeneous system with peach oil while preparing a liniment?

A *Camphor
B Zinc oxide
C Xeroform
D Dermatol
E Streptocide

26. What is the type of the dispersion system in the medicine?
Rp.: Chloroformii
Olei Helianthi
Methylii salicylatis ana 10.0
Misce. Da. Signa. For rubbing.

A *Liniment – solution
B Combined liniment
C Liniment – emulsion

D Liniment – suspension
E Extractive liniment

27. Wha is the type of the dispersion system in the medicine?
Rp.: Picis liquidae Betulae
Xeroformii ana 6.0
Olei Ricini 100.0
Misce. Da. Signa. Balm liniment of Vishnevsky.

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

28. What type of liniment is it?
Rp.: Olei Helianthi 7.4
Solutionis Ammonii caustici 2.5 ml
Acidi oleinici 0.1
Misce. Da. Signa. Ammonia liniment. For rubbing.

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

29. What is the type of thedispersion system in the medicine?
Rp.: Dimedroli 0.3
Solutionis Adrenalini hydrochloridi gtts. XXX
Lanolini 5.0
Vaselini 10.0
Misce. Da. Signa. Ointment for nose.

A *Ointment – emulsion
B Ointment – solution
C Ointment – suspension
D Combined ointment
E Extractive ointment

30. What is the type of the dispersion system in the medicine?
Rp.: Streptocidi
Dermatoli ana 1.0
Lanolini
Vaselini ana 5.0

Misce. Da. Signa. For wounds.

A * Ointment – suspension
B Ointment – solution
C Ointment – emulsion
D Combined ointment
E Extractive ointment

31. What substance can replace xeroform in the composition of Vishnevsky liniment?

A *Dermatol
B Anaesthesin
C Camphor
D Zinc oxide
E Novocaine

32. Indicate the way of introduction of water soluble substances in the ointment if their quantity is more than 5 %:

A *As the suspension type with a part of the melted base
B Dissolve in purified water
C Dissolve in the melted base
D Dissolve in a liquid suitable with the base
E Add to the ointment prepared in the end

33. What is a right way of tannin introduction?
Rp.: Tannini 0.2
Lanolini 3.0
Vaselini 10.0
Misce ut fiat unquentum
Da. Signa. For the skin.

A *Dissolve in water, emulsify by anhydrous lanolin
B Grind in a mortar according to the Deryagin rule with vaselin oil
C Dissolve in the melted vaselin
D Grind with alcohol in a mortar and mix with a base
E Dissolve in vaselin oil

34. What is the order of the combined ointment preparation?

A *Suspension – solution – emulsion
B Solution – emulsion – suspension
C Emulsion – suspension – solution
D Solution – suspension – emulsion
E Emulsion – solution – suspension

35. What substance is introduced into the ointment base as a water solution?

A *Protargol
B Starch
C Camphor
D Zinc oxide
E Menthol

36. What is the type of the ointment base?
Rp.: Zinci oxydi 1.0
Vaselini 10.0
Misce. Da. Signa. For the skin.

A *Hydrophobic
B Hydrophilic
C Emulsion
D Liophobic
E Diphilic

37. What substance can replace cod liver oil?

A *Castor oil
B Sunflawer oil
C Camphor oil
D Vaselin oil
E Medicinal vaselin

38. What substance is hydrophilic?

A *Polyethylenoxide base
B Goose fat
C Vaselin-lanolin base
D Vaselin
E Parafin

39. What is the optimal technology for this medicine?
Rp.: Chloroformii 10.0
Olei Helianthi
Olei Terebinthinae ana 20.0
Misce. Da. Signa. For rubbing in joints.

A *Weigh a sunflower oil in the bottle for dispensing, shake well chloroform, turpentine,

B Weigh turpentine, sunflower oil in the bottle for dispensing, measure chloroform and shake well
C Weigh all components in the bottle for dispensing and strain in the auxiliary bottle, shake well
D Measure turpentine in the bottle for dispensing, shake well sunflower oil, chloroform,
E Weigh chloroform in the bottle for dispensing, shake well sunflower oil, turpentine,

40. A pharmacist prepared 200.0 g of water lanolin. What is the amount of purified water and anhydrous lanolin?

A *60 ml and 140.0
B 30 ml and 170.0
C 3 ml and 197.0
D 140 ml and 60.0
E 170 ml and 30.0

41. A pharmacist prepared the ammonia liniment. What ingredients did he use?

A *Sunflower oil, oleinic acid, 10 % solution of ammonia
B Peach oil, oleinic acid, 10 % solution of ammonia
C Sunflower oil, ascorbic acid, 10 % solution of ammonia
D Sunflower oil, oleinic acid, 5 % solution of ammonia
E Sunflower oil, ascorbic acid, turpentin

42. What substance forms the emulsion ointment on the lipophilic base?

A *Protargol
B Camphor
C Thymol
D Basic bismuth nitrate
E Penicilline salts

43. What medicinal substance forms the suspension ointment?

A *Basic bismuth nitrate
B Protargol
C Wax
D Ichthyol
E Potassium iodide

44. What additional substance should be used for dissolving collargol while preparing the ointment?

A *Purified water

B Glycerol
C Vaselin oil
D Alcohol
E Sunflawer oil

45. A pharmacist prepared an emulsion ointment. What is the right technology of introduction medicinal substances in the quantity to 5 %?

A *Dissolve in the minimal amount of water, mix with a base
B Dissolve in vaselin oil and mix with a base
C Dissolve in a part of the melted base
D Dissolve in alcohol and mix with a base
E Dissolve in ether, mix with a base

46. A pharmacist prepared the suspension ointment. What is the way of unsoluble substances introduction in the quantity to 5 %?

A *Grind with a liquid suitable with the base
B Mix with the ointment base
C Mix with the melted base
D Dissolve in glycerol
E Grind with water

47. What base forms an ointment-solution with camphor?

A *Vaselin
B Collagen base
C Methylcellulose base
D Polyethylenoxide base
E Phytosterol base

48. A pharmacist prepares the ointment with the polyethylenoxide base. What is a homogeneous ointment?

A *Streptocide ointment
B Yellow mercury ointment
C Naphtalan ointment
D Grey mercury ointment
E Xeroform ointment

49. A chemist’s shop obtained ointment bases. Fats are:

A *Hydrophobic bases
B Hydrophilic bases
C Diphilic/emulsion bases

D Silicon bases
E Absorptive bases

50. What factor defines the type of the emulsion base – w/o, o/w?

A *The nature of an emulsifier
B The amount of a base
C The amount of water
D The ratio between ingredients
E The order of mixing ingredients

51. What concentration of dry substances in suspension ointments requirs to be melt a part of a base?

A *From 5 % to 25 %
B Less than 5 %
C More than 20 %
D More than 10%
E To 3%

52. A chemist's shop obtained ointment bases. Polyethylenoxides are:

A *Hydrophilic bases
B Hydrophobic bases
C Diphilic/emulsion bases
D Silicon bases
E Carbohydrate bases

53. What is the way of introduction of zinc sulphate into dermatological ointment?

A *As a thin powder by the suspension type
B By dissolving in water
C By dissolving in a base
D It is depends on the amount of a dry substance
E By dissolving in glycerol

54. Esilon-4 and esilon-5 are ointment bases from the group of:

A *Silicon
B Carbohydrates
C Fats
D Emulsions
E Lipophylic substances

55. A suitable liquid should be used for preparing a suspension ointment if the concentration of a dry substances is:

A *less than 5 %
B more than 25 %
C from 5 % to 25 %
D less than 10 %
E less than 3 %

56. What ointment base is used if it is not indicated in the prescription?

A *Vaselin
B Fat
C Emulsion base
D Hydrophilic base

57. What is the way of the dry and dense extract introduction into a ointment-emulsion?

A *Grind with the equal amount of the alcohol-water-glycerol mixture, emulsify and add vaselin
B Add to the prepared ointment
C Mix with a part of the base weighed
D Dissolve in water
E Mix with a part of the melted base

58. What liquid is suitable with the vaselin base?

A *Vaselin oil
B Glycerol
C Esilon- 4
D PEO-400
E Peach oil

59. A pharmacist prepared the ointment with a liquid consistence. How can viscosity of the ointment be increased?

A *Add paraffin or wax
B Add vaselin
C Add an emulsifier
D Mix with glycerol
E Add salomas

60. What is the way of introducing tannin, collargol and protargol into the emulsion ointment?

A *Dissolve in water
B As the suspension type
C It depends on the amount of dry substances
D Grind with a melted base
E Grind with vaselin oil

61. What ointment requires using the Deryagin rule for the drug introduction?

A * Ointment-suspension
B Ointment-alloy
C Ointment-emulsion
D Ointment-solution
E Extractive ointment

62. What amount of a suitable liquid should be used according to the Deryagin rule for preparing the suspension ointment?

A *Half amount of the mass of dry substances
B Equal amount of the mass of dry substances
C Double amount of the mass of dry substances
D 1/5 of the amount of dry substances
E Liquid is not used

63. What medicinal substance has the highest melting temperature?

A *Wax
B Parafin
C Vaselin
D Lanolin
E Vaselin oil

64. Paste is formed when the amount of the disperse phase is:
A *25 %;
B 30 %;
C 10 %;
D 5 %;
E 50 %.

65. What substance is a disperse medium for preparing a vasoliment?

A *Vaselin oil
B Soap alcohol
C Lanolin
D Fatty oils

E Glycerol

66. What is the way of drug introduction in a paste?

A *In a warm mortar mix dry substances with all melted base
B In a mortar mix with glycerol and add the melted base
C In a warm mortar grind with alcohol and mix with a base
D Grind with a liquid suitable with the base in the warm mortar
E Grind and mix with a base in the warm mortar

67. At the chemist's shop Rozental liniment is prepared by the following formula:
Take: Iodine 1.0
Potassium iodide 2.0
Paraffin 20.0
Ethanol 70% 20 ml
Chloroform 130.0
Indicate the correct technology of dissolving iodine when preparing this liniment.

A *In the calculated amount of purified water dissolve potassium iodide, then in the solution of potassium iodide obtained dissolve iodine, add 95 % alcohol
B Dissolve iodine in 70 % alcohol
C In 70 % alcohol dissolve potassium iodide, then in the solution obtained dissolve iodine
D Dissolve iodine in chloroform
E Add iodine to the liniment prepared in the end.

68. At the chemist's shop it is necessary to prepare the emulsion ointment as W/O with a high content of the water phase. Indicate the content of bases, which is optimal for preparing of such ointments?

A *Vaseline + 50% anhydrous lanolin
B Anhydrous lanolin
C Vaseline + 5% anhydrous lanolin
D Hydroginized fats
E Consistent emulsion base

69. Which lanolin will be used if it is not indicated in the prescription?

A *Lanolin with 30 % content of water
B Lanolin with 5 % content of water
C Lanolin with the water content in the ratio of 1:2
D Lanolin with 10 % content of water
E Anhydrous lanolin

70. Dry and dense extracts are introduced in ointments in the following way:

A * preliminary grind with the alcohol-water-glycerin [1:6:3] mixture
B introduce in the melted ointment base
C preliminary dissolve in water
D grind with a liquid, which is suitable for the base
E grind with alcohol

71. According to the way of obtaining the Naphthalane ointment is:

A * ointment-alloy
B ointment-solution
C extractive ointment
D ointment-emulsion
E ointment-suspension

72. A pharmacist prepared the liniment of Vishnevsky. By which component is it possible to replace tar in the formula?

A *Shostakovsky balsam (viniline)
B Peach oil
C Benzoic resin
D Cod-liver oil
E Collargol

73. A pharmacist should prepare the camphor ointment according to the formula:
Rp.: Camphorae 10.0
Vaselini 60.0
Lanolini anhydrici 30.0
Misce, fiat unguentum
Da. Signa. For grindings.
How should camphor be introduced in the composition of the ointment?

A *Dissolve in the melt vaselin and lanolin at the 45-50°C
B Dissolve in the minimal quantity of vaselin oil, then mix with vaselin and lanolin
C Dissolve in purified water, add the emulsifier – anhydrous lanolin, then mix with vaselin
D Grind with vaselin, add lanolin
E Grind with lanolin, add vaselin

74. What medicinal substance should be introduced into the composition of the ointment as a water solution independently from the amount prescribed?

A *Protargol
B Boric acid

C Resorcinol
D Belladonna extract
E Zinc sulphate

CHAPTER IX

SUPPOSITORIES

1. What is the temperature of melting for suppositories base if it is not indicated?

A *Not more than 37°C
B Not more than 37.8°C
C Not more than 36.6°C
D Not more than 38°C
E Not more than 36°C

2. What is the way of streptocide introduction in a PEO base?

A *Dissolve in the melted base
B By the suspension type
C Dissolve in vaselin oil
D Dissolve in water, emulsify by anhydrous lanolin
E Dissolve in glycerol

3. A pharmacist should prepare suppositories on the hydrophobic base by the casting method. What base does he use?

A *Butyrol
B Gelatin-glycerin
C Soap-glycerin
D Alloy of PEO with a different molecular weight

4. What is the synthetic base?

A *Alloy of PEO
B Coriander oil
C Cacao butter
D Gelatin-glycerin
E Soap-glycerin

5. What is the optimal shape of vaginal suppositories?

A *Pessary
B Globule
C Egg-shaped

6. What is the optimal shape of rectal suppositories?

A *Torped or cigar
B Cylinder
C Cone

7. What shape of vaginal suppositories is used if it is not indicated in the prescription?

A Globule
B Ovule
C *Pessary

8. What shape of rectal suppositories is used if it is not indicated in the prescription?

A Con
B Cylinder
C *Torped

9. What is the way of boric acid introduction in cacao butter if its amount is more than 5%?

A *Add as a thin powder
B Grind with vaselin oil
C Grind with a small amount of purified water
D Dissolve in a suitable liquid with a base
E Dissolve in alcohol

10. When is the coefficient of replacement used?

A *If the concentration of dry substances is more than 5 %
B If a substance is water-soluble
C If a substance is unsoluble in the base
D If a substance is soluble in the base
E If the concentration of dry substances is less than 5 %

11. What is the limit of suppositories in mass for children?

A *0.5 – 1.5
B 1.0 – 2.0
C 0.5 – 2.0
D 0.1 – 0.5
E 0.5 – 3.0

12. What suppository base is used if it is not indicated in the prescription?

A *Cacao butter
B Butyrol

C Vitepsol
D Lanol
E Gelatin-glycerin base

13. What is the way of protargol introduction in cacao butter?

A *As a water solution
B By dissolving in the base
C As a thin powder by the suspension type
D Grind with some drops of fatty oil

14. What is the limit of mass for sticks?

A *0.5-1.0
B 0.5-1.5
C 0.1-2.0
D 0.1- 1.0
E 0.5-3.0

15. What is the time of complete deformation for rectal suppositories on the hydrophobic base (according to the SPh of Ukraine)?

A *15 min
B 3 min
C 5 min
D 10 min
E 30 min

16. What is the way of tannin introduction in the fatty base?

A *As a water solution by the emulsion type
B By dissolving in the base
C As a thin powder by the suspension type

17. The diameter of rectal suppositories by the rolling method should be not more than:

A *1.5 cm
B 3 cm
C 2.5 cm
D 2 cm
E 1 cm

18. The dissolution time for suppositories on the hydrophilic base is:

A *60 min

B 45 min
C 30 min
D 15 min
E 5 min

19. What liquid is used for smearing a suppository form while preparing suppositories on the hydrophobic base?

A *Soapy alcohol
B Glycerol
C Peach oil
D Purified water
E Vaselin oil

20. What suppository base requires the indication of the melting temperature?

A *Butyrol
B Gelatin-glycerin
C Alloy of PEO
D Soapy-glycerin

21. What liquid is used for smearing a suppository form while preparing suppositories on the hydrophilic base?

A *Vaselin oil
B Glycerol
C Soapy alcohol
D Peach oil
E Glycerin water

22. What is the way of dry Belladonna extract (1:2) introduction in the suppository base?

A* Mix with a base after dissolving in the equal amount of the alcohol-water-glycerol mixture
B Mix with a base
C Mix with the prepared suppository mass
D Grind after dissolving in water
E Grind after dissolving in alcohol

23. What is the mass of one rectal suppository if it is not indicated by a doctor?

A *3.0
B 2.5
C 3.5

D 2.0
E 1.5

24. A pharmacist prepared suppositories on the gelatine-glycerin base. What suppositories are prescribed?

A *Vaginal
B Rectal
C Sticks

25. What amount of a base should be used for vaginal suppositories preparation if it not indicated in the prescription?

A *4.0
B 5.0
C 3.0
D 2.0
E 1.5

26. What is the way of collargol introduction into a hydrophobic suppository base?

A *As a water solution
B By dissolving in the base
C As a thin powder by the suspension type
D Grind with some drops of fatty oil

27. What amount of suppositories should be weighed for determination of the average mass of one suppository according to the SPU?

A *20
B 10
C 5
D 30
E 2

28. A pharmacist prepares suppositories by the rolling method. What is the way of papaverine hydrochloride introduction in the base in the quantity to 5 %?

A *Dissolve in some amount of purified water
B Add to the melted base
C Dissolve in vaselin oil
D Add to the grated base

29. What is the composition of a gelatine-glycerin base?

	Gelatinose:	Water:	Glycerol:
A*	1	2	5
B	1	3	6
C	2	1	5
D	1	6	3
E.	3	1	6

30. What is a deviation of suppositories in mass?

A *± 5 %
B ± 10 %
C ± 3 %
D ± 4 %
E ± 1 %

31. What amount of cacao butter is used for preparation of 10 rectal suppositories containing 5.0 g of teophylline by the rolling method?

A *25.0
B 30.0
C 5.0
D 35.0
E 40.0

32. What is the way of camphor introduction in cacao butter while preparing by the rolling method in the quantity more than 5 %?

A *Dissolve in a part of the melted cacao butter
B Dissolve in a small amount of water
C As a thin powder by the suspension type
D Dissolve in a liquid suitable with the base

33. What is the way of dermatol introduction into a hydrophobic base by the casting method?

A *Grind as a dry substance, add a part of the melted base
B Dissolve in water, emulsify and mix with a base
C Dissolve in the melted base
D Grind as a dry substance, add a liquid suitable with the base

34. What coefficient is used in calculation of the gelatine-glycerin base?

A * Replacement coefficient

B Volume increased coefficient
C Water absorption coefficient
D Isotonic coefficient

35. What is the way of streptocide introduction in cacao butter?

A *As a thin powder by the suspension type
B Dissolve in the minimal quantity of water and add a base
C Dissolve in vaselin oil
D Add to the melted base

36. What medicinal form should be prepared if a doctor indicated the mass of medicinal substances, the length and diameter of medicine for base calculation?

A *Sticks (bacillus)
B Rectal suppositories
C Vaginal suppositories
D Rectal suppositories for children

37. What is the order of mixing ingredients for preparation of a soapy-glycerin base?

A *Glycerol, sodium carbonate, small portion of stearinic acid
B Sodium carbonate, glycerol, stearinic acid
C Glycerol, stearinic acid, small portion of sodium carbonate

38. What amount of a fatty base is used for preparation of 10 pessaries if it is not indicated for one suppository?

A *40.0
B 36.4
C 41.6
D 38.4

39. What base should be used for preparation of suppositories by the rolling method?

A *Cocoa butter
B Butyrol
C Gelatin-glycerinated base
D Vaseline
E The mixture of vaseline with lanolin

40. What base is hydrophilic?

A *Soapy-glycerin
B Sebuvinol

C Vitepsol
D Lazupol
E Butyrol

41. What base is not used for preparing vaginal suppositories?

A *Soapy-glycerin base
B Gelatin-glycerin base
C Alloy of PEO
D Cacao butter
E Butyrol

42. At the chemist's shop suppositories are prepared on the gelatin-glycerin base. Indicate the amount of this base, which is necessary to use for preparation of suppositories compared to the fatty base.

A * 1.21 times more
B Equal amount
C 2.5 times more
D 2 times more
E 1.21 times less

43. What technological stage is not used for the rolling method of suppositories preparation?

A *Cooling forms with suppositories
B Preparation of a base
C Introduction of medicinal substances and forming a suppository mass
D Dosing
E Packing and registration

44. Which vaginal medicinal form is made in pharmacy practice from the following list?

A *Pessary (vaginal suppository)
B Vaginal tablets
C Vaginal capsules
D Vaginal foam
E Tablets for preparing vaginal solutions and suspensions

45. A pharmacist prepared rectal suppositories from cocoa butter with dimedrol in the quantity less than 5 %. What is the method of introduction of this substance in the base?

A *Dissolving in the minimum amount of purified water

B Dissolving in olive oil
C Dissolving in the melted cocoa butter
D Dissolving in Vaseline oil
E Dissolving in alcohol

46. What amount of the base should be used for preparation of the following prescription:
Rp.: Anaesthesini 0.1
Xeroformii 0.5
Olei Cacao q. s. ut fiant suppositoria numero 10
Da. Signa. Use 1 rectal suppository daily.
A *24.0
B 25.0
C 30.0
D 36.0
E 40.0

47. A pharmaceutist prepares vaginal suppositories by the method of pouring out. Which hydrophilic base can he use for this purpose?

A *Polyethylene oxide
B Cocoa butter
C Vitepsol
D Solid fat
E Butyrol

CHAPTER X

MEDICINAL FORMS FOR INJECTIONS

1. What is a thermolabile substance?

A * Hexamethylentetramine
B Glucose
C Novocain
D Dibasol
E Sodium chloride

2. What stabilizer is used for preparation of the solution of atropine sulphate for injections?

A* 0.1 M solution of hydrochloric acid
B 0.1 M solution of sodium hydroxide
C Stabilizer of Weibel

D 0.1 % solution of sodium hydrocarbonate
E 0.1 % solution of sodium chloride

3. What volume of the bottle should be filled while preparing the solution of sodium hydrocarbonate for injections?

A *2/3 of the volume
B All volume of a bottle
C 1/3 of the volume
D 1/2 of the volume
E 1/4 of the volume

4. A pharmacist prepares a solution for injection at the 20°C, without shaking it, filles up to 80 % (2/3) of the volume and sterilizes in the horizontal state. What is a medicinal substance?

A *Sodium hydrocarbonate
B Ascorbinic acid
C Glucose
D Apomorphine hydrochloride
E Calcium gluconate

5. What stabilizer is used for preparing the solution of novocain for injections?

A *Solution of hydrochloric acid 0.1 M
B Sodium hydroxide
C Sodium hydrocarbonate
D Sodium methabisulphite
E Ascorbic acid

6. What substance is used for making a solution for injections isotonic if it is not indicated?

A *Sodium chloride
B Sodium methabisulphite
C Sodium sulphite
D Sodium nitrate
E Sodium bisulphite

7. What auxiliary substances are used for preparing the solution of ascorbic acid for injections?

A *Sodium sulphite and sodium hydrocarbonate
B Solution of hydrochloric acid 0.1M
C Boric acid

D Solution of sodum hydroxide 0.1M
E Stabilizer of Weibel

8. What method for sterilization of tableware is used while preparing a solution for injections?

A *Dry heat
B Tyndalization
C By fluid vapour
D By chemical substances
E By UV-rays

9. A pharmacist prepared 100 ml of the isotonic solution of sodium chloride. What amount of sodium chloride did he use?

A *0.9
B 10.0
C 5.0
D 1.8
E 1.0

10. A pharmacist should prepare 5 % solution of glucose for infusion. What solvent does he use?

A *Water for injections
B Purified water
C Demineralizated water
D 0.9 % water solution of sodium chloride
E Purified water with hydrochloric acid with pH 3.5-5.0

11. Indicate the composition of Weibel liquid used for stabilisation of glucose solution?

A *Sodium chloride and solution of hydrochloric acid
B Solution of hydrochloric acid
C Sodium hydrocarbonate and solution of boric acid
D Solution of sodium hydroxide
E Solution of boric acid and sodium tetraborate

12. A pharmacist prepared Ringer solution and Ringer-Lock solution. What component of these two solutions is different?

A *Glucose
B Solution of hydrochloric acid 0.1 M
C Boric acid
D Calcium chloride

E Weibel liquid

13. What component is not used for preparing a solution for infusions?

A *Preservatives
B Water for injections
C Solution of sodium chloride
D Isotonic solution of sodium chloride
E Sterile water for injections

14. A pharmacist prepared 100 ml of the isotonic solution of sodium chloride. What method of sterilization did he use?

A *By vapour
B By air
C By gase
D Mechanical
E By radiation

15. A pharmacist prepared 150 ml of 10 % solution of glucose. What amount of Weibel liquid did he use for stabilization?

A *7.5 ml
B 5 ml
C 10 ml
D 15 ml
E 3 ml

16. A pharmacist prepares 250 ml of 5 % solution of glucose. What is duration of sterilization of this solution by vapour and pressure at the 120°C?

A *12 min
B 8 min
C 30 min
D 15 min
E 60 min

17. A pharmacist prepared the solution of a substance, which is the salt of a strong base and weak acid, for injections. What is a stabilizer?

A *Sodium hydroxide
B Sodium sulphite
C Hydrochloric acid
D Ascorbic acid
E Cysteine

18. What substance should be stabilized by sodium hydrocarbonate while preparing a solution for injections?

A *Sodim thiosulphate
B Novocain
C Ephedrine hydrochloride
D Sodium chloride
E Glucose

19. A pharmacist prepared a solution for injections with a stabilizer – 0.1 M solution of sodium hydroxide. What is the solution?

A *Caffeine-sodium benzoate solution
B Dibasol solution
C Sodium hydrocarbonate solution
D Sodium chloride solution
E Glucose solution

20. What substance is easily oxidizable and required adding an antioxidant?

A *Ascorbic acid
B Dimedrol
C Sodium chloride
D Hexamethylentetramine
E Calcium gluconate

21. A pharmacist should sterilize 400 ml of calcium gluconate solution for injections. What is the time of sterilization into autoclave at the 120°C?

A *12 min
B 10 min
C 15 min
D 30 min
E 8 min

22. What method can be used for sterilization of solutions of a thermolabile substance?

A *Sterile filtration through the membrane filter
B In autoclave by vapour and pressure
C Sterilization by UV-rays
D By dry heat
E By radiation

23. Indicate a chemical method of sterilization:

A *Adding preservatives
B Sterilization by dry heat
C Radiation sterilization
D Sterilization by vapour and pressure
E Sterilization by UV-rays

24. What method is widely used for calculating the isotonic concentration?

A*Using sodium chloride isotonic equivalents
B Using the Van't Hoff's law
C Using the graphic method
D Using the Raoult's law
E Using the Mendeleyev-Clapeyron equation

25. What optimal method of sterilization is used for 10 % solution of sodium chloride for injections?

A *In autoclave by the saturated vapour under pressure
B Sterile filtration through a membrane filter
C Sterilization by gases
D Sterilization by dry heat
E Sterilization by radiation

26. A pharmacist prepares solutions of Novocain 0.25 % and 0.5 % for injections. What is the main factor while calculating the volume of hydrochloric acid as a stabilizer?

A *The concentration of novocain solutions
B The time of sterilization of novocain solutions
C The order of mixing of ingredients in solutions
D The order of technological stages
E Purity of novocain

27. What is the additional requerement for quality of sodium chloride while preparing solutions for injections?

A *«c.p.», depyroginized
B «p. f. a.»
C Type "For injections"
D The absence of impurity of manganate salts
E Anhydrous, «p.f.a.»

28. What substance is a regulator of the water-salt balance?

A *Ringer-Lock solution

B Polyglukin
C Neohemodez
D Hydrolysin
E Dextran

29. What is duration of sterilization for 100 ml of 0.9 % solution of sodium chloride?

A *120°C - 8 min
B 120°C - 12 min
C 120°C - 15 min
D 180° C - 30 min
E 100°C – 15 min

30. When should a solution for injections be checked in the absence of particulate matter?

A *Before and after sterilization
B Before filtration
C Before chemical analysis
D After registration for dispensing
E Before and after dosing

31. What stabilizer is used for the solution of glucose for injections?

A *Weibel liquid
B Sodium chloride solution
C Hydrochloric acid solution
D Sodium nitrate solution
E Sodium sulphate solution

32. What is the value of blood depression?

A *0.52°C
B 0.10°C
C 0.34°C
D 0.90°C
E 0.45°C

33. What process is carried out in erythrocytes with introduction of a hypertonic solution in the organism?

A *Plasmolysis
B Hydrolysis
C Hemolysis

D Lipolysis
E Electrolysis

34. What method for sterilization of novocain solution is used?

A *By autoclave
B Pasterization
C Tyndalization
D Dry air
E Ultrasound

35. What amount of 0.1 M solution of hydrochloric acid is used for preparing 1000 ml of 2 % solution of novocain?

A *12 ml
B 6 ml
C 3 ml
D 4 ml
E 9 ml

36. A pharmacist prepares 50 ml of sodium chloride solution for injections. What is the time of sterilization of this solution by fluid vapour?

A *30 min
B 60 min
C 12 min
D 15 min
E 8 min

37. What thermo-test is used for checking the temperature into autoclave?

A *Benzoic acid, sulphur
B Ascorbic acid
C Citric acid
D Succinic acid
E Thiourea

38. What is the condition and duration of keeping medical clothes?

A *Not more than 3 days in aseptical condition and closed drums
B Not more than 2 days in opened drums
C Not more than 1 day in opened drums
D Not more than 3 days in aseptical condition
E Not more than 7 days in closed drums

39. What is the principle of glass filter work?

A * Under pressure
B Under excessive pressure of the air
C Under pressure of a filtered liquid

40. What control should be carried out before registration for dispensing?

A *Secondary
B Visual
C Primary
D Toxicity
E Pyrogenity

41. What method for calculating the isotonic concentration is pharmacopoeian?

A ***Sodium chloride isotonic equivalent
B Van't Hoff law
C Mendeleyev-Clapeyron equation
D Graphic method
E Cryoscopic method (by the Raoult's law)

42. How often the bacteriological control of water for injections is carried out?

A ***** Not less than 2 times per a quarter
B Once per a quarter
C Daily
D Twice per a year
E Weekly

43. What number of bottles of one series is checked when performing the leakage test?

A *All bottles (100 %)
B 75 %
C 25 %
D 10 %
E 50 %

44. A pharmacist sterilized bottles for injections. What is the time of keeping a sterile tableware?

A *Not more than 24 hours in aseptical conditions
B Not more than 3 days in aseptical conditions

C Not more than 12 hours in general conditions
D Not more than 48 hours in general conditions
E Not more than 1 month in aseptical conditions

45. What method for sterilization of vegetable oils is used?

A *Dry heat (dry air)
B Fluid vapour
C UV-rays
D Autoclave
E Bacterial filtration

46. How often is the pyrogenic control of water for injections carried out?

A *Once per a month
B Once pertwo quarters
C As possible
D Once per quarter
E Daily

47. How is the solution for injections checked in the absence of particulate matter?

A *Visually (on the black or white background)
B By microscope
C On the glass table

48. What is the shelf-life of water for injections?

A ***** Not more than 24 hours
B Not more than 2 days
C Not more than 12 hours
D Not more than 7 days
E Not more than 3 days

49. What method is used for sterilization of the following auxiliary substances: cotton, gause, filters, covers for sterile medicines, etc.?

A *****Autoclaving
B Fluid vapour
C Dry heat (dry air)
D Boiling in water
E UV-rays

50. What is the right technology of the Ringer-Lock solution?

A *Prepare separately the solution of sodium hydrocarbonate and the solution of other ingredients
B Prepare separately the solution of glucose
C Dissolve all components together

51. What concentration of alcohol for anti-shock liquids is used?

A * to 33 %
B 70 %
C 40 %
D 60 %
E 90 %

52. How often is the chemical analysis of water for injections carried out at the chemist's shop?

A * Daily
B After 48 hours
C Once per a quarter
D After 72 hours
E Once per a month

53. When can a bottle with the solution of sodium hydrocarbonate be opened after sterilization?

A * In 2 hours
B In 30 min
C Immediatly after sterilization
D In 24 hours
E In 15 min

54. A pharmacist prepares the solution of gelatinose for injections. What is the additional quality control of gelatinose for injections?

A * Pyrogenity
B Dissolution
C Heavy metals
D Chloride ions
E Sulphate ions

55. What stabilizer is used for preparation of the solution of strychnine nitrate for injections?

A *Hydrochloric acid
B Ascorbic acid

C Sodium hydrocarbonate
D Sodium hydroxide
E Trylon B

56. What is the additional requirement to water for injections according to the SPU?

A *Apyrogenity
B Sterility
C Transparency
D Absence of chloride ions
E Absence of particulate matter

57. What stabilizer is used for stabilisation of the solution of dibasol for injections?

A *Hydrochloric acid
B Weibel liquid
C Rongalit
D Sodium chloride
E Sodium hydroxide

58. How often is the desinfacting solution changed for the aseptic block?

A *Once per a shift
B In a day
C Once a day
D Once per a month
E Once per week

59. What is the temperature for destroying pyrogenic substances?

A *200 °C
B 120 °C
C 150 °C
D 100 °C
E 180 °C

60. How is the sterility of suspensions for injections obtained?

A *By sterilization of ingredients from the composition of the suspension
B By bacterial filtration
C Sterilization of the suspension prepared by fluid vapour
D Autoclaving of the suspension prepared
E By gas sterilization

61. When should solutions for injections be sterilized after their preparation?

A *In 30 min
B In 3 hours
C In 2 hours
D Immediately
E In 1-1.5 hours

62. What method is used for sterilization of solutions for injections?

A *By autoclave
B By boiling in water
C By the hot air
D By ultra-violet beams
E By gas sterilization

63. How long should auxiliary substances in closed drums in aseptic conditions be stored?

A *Not more than 3 days
B Not more than 4 days
C 2 days
D 1 day
E 7 days

64. When should the solution of glucose for injections be sterilized after preparation?

A *Immediatly
B In 1 hour
C In 30 min
D In 2 hours
E In 3 hours

65. What is the condition of depyrogenization for sodium chloride?

A *Heating at 180 °C for 2 hours
B Heating at 190 °C for 1.5 hours
C Heating at 150 °C for 3 hours
D Heating at 200 °C for 1 hour
E Heating at 120 °C for 30 min

66. An edema can be relieved by means of hypertonic solutions. What phenomenon takes place in the blood cells after injection of such solution?
A *Plasmolysis
B Hydrolysis

C Hemolysis
D Lipolysis
E Electrolysis

67. The amount of a stabilizer for glucose solution for injections depends on:

A *the volume of the prescribed solution
B the concentration of glucose in the solution
C sterilization conditions
D purity of initial substances
E the way of application

68. What way of treating is used for air in the aseptic room?

A *By UV-rays
B By filtration
C By heating
D By drying
E By gas sterilization

69. The amount of a stabilizer for novocain solution for injections depends on:

A *the concentration of novocain in the solution
B the volume of the prescribed solution
C sterilization conditions
D the way of application
E purity of initial substances

70. What number of bottles with solutions for injections from one series is checked for particulate matter?

A *All bottle of the batch (100 %)
B 50 % of the bottles
C 75 % of the bottles
D 25 % of the bottles
E 10 % of the bottles

71. What is the isotonic concentration of sodium chloride solution?

A *****0.9 %
B 10 %
C 25 %
D 2 %
E 5 %

CHAPTER XI

OPHTHALMIC MEDICINES AND MEDICINAL FORMS WITH ANTIBIOTICS

1. What is the role of methylcellulose or polyvinylpyrolidone in the composition of ophthalmic drops?

**A ***Prolongating component
B Antioxidant
C Regulator of the pH value
D Preservative
E Isotonic agent

2. A pharmacist prepared an ointment in aseptic conditions. What substance is prescribed?

**A ***Sodium salt of benzylpenicillin
B Basic bismuth nitrate
C Analgin
D Copper sulphate
E Potassium permanganate

3. While preparing of this medicinal form a pharmacist dissolves a substance into half amount of purified water, filters through the filter and cotton washed by water previously into the bottle for dispensing, adds the rest amount of water through the same filter. What is the medicinal form?

**A ***Ophthalmic drops
B Suspension
C Emulsion
D Mixture
E Syrup

4. What amount of antibiotic is weighed if 1000 000 UA equal 0.6 g?
Rp.: Benzylpenicyllini-natrii 100 000 UA
Streptocidi 2.0
M. f. pulv.
D.S. For inhalation.

A *0.06 g
B 0.18 g
C 2.0 g
D 1.2 g
E 1.8 g

5. What the way of introduction of zinc sulphate into the ophthalmic ointment?

A *Dissolve in a small amount of water
B Grind with glycerol
C Grind with a liquid suitable with the base
D Grind with a part of the melted base
E Grind with a base

6. What substance can be sterilized in the composition of ophthalmic drops with antibiotic at 100^0C?

A *Levomycetin
B Erytromycin
C Neomycin
D Sodium salt of benzylpenicillin
E Streptomycin sulphate

7. What method is used for sterilization of the ophthalmic base?

A *Dry heat
B Fluid vapour
C Pasterization
D UV-rays
E Membranic filtration

8. What is the time of sterilization of ophthalmic drops by fluid vapour?

A *30 min
B 60 min
C 45 min
D 15 min
E 90 min

9. A pharmacist prepared ophthalmic drops with pilocarpine hydrochloride and adrenalin hydrochloride. What is the peculiarity of introduction of adrenaline hydrochloride in the solution?

A * Add after complete sterilization in aseptic conditions
B Add after dissolving a dry substance
C Add to the half amount of a solvent
D Add at first
E Add after making isotonic

10. What volume of water is used for dissolving an easily soluble substance while

preparing ophthalmic drops?

A *Half amount of purified water
B All volume of purified water
C 1/3 of volume purified water
D 1/4 of volume purified water
E 3/4 of volume purified water

11. A pharmacist prepared ophthalmic drops with the following dry substances: riboflavin, potassium iodide, ascorbic acid. What is the way of introduction of potassium iodide?

A *Add after sterilization in the aseptic conditions
B Dissolve in the solution of riboflavin
C Add in the auxiliary bottle in the end
D Dissolve in purified water, sterilize
E At first place in the bottle for dispensing

12. What disperse system forms the ophthalmic base with norsulfasol?

A * Ointment-suspension
B Ointment -emulsion
C Ointment -solution
D Ointment -alloy
E Combined ointment

13. What isotonic agent is used for ophthalmic drops with 1 % solution of pilocarpine hydrochloride?

A * Sodium chloride
B Boric acid
C Glucose
D Sodium nitrate
E Sodium sulphate

14. What property should be taken into account while preparing ophthalmic drops with adrenalin hydrochloride?

A * Drops are thermolabile
B Drops are sparingly soluble in water
C Drops are slightly soluble in water
D Drops are thermostable
E Drops are volatile

15. What isotonic agent is used for making isotonic the ophthalmic drops with zinc

sulphate?

**A ***Sodium sulphate
B Glucose
C Sodium nitrate
D Sodium sulphite
E Sodium chloride

16. What ratio is used for preparation of the ophthalmic vaselin-lanolin base?

**A ***9:1
B 1:1
C 5:1
D 6:4
E 7:3

17. What substance is used for making isotonic the ophthalmic drops with protargol?

**A ***It can not be isotonic
B Sodium chloride
C Sodium nitrate
D Sodium sulphite
E Boric acid

18. What substance is used for making isotonic the ophthalmic drops with silver nitrate?

A * Sodium nitrate
B Sodium chloride
C Boric acid
D Glucose
E Sodium sulphate

19. To prepare ophthalmic drops the concentrate-solution of riboflavin (1:5000) is used.What amount of this solution is measured if 0.001 g of riboflavin is prescribed?

**A ***5 ml
B 2 ml
C 3 ml
D 4 ml
E 1 ml

20. What is the technology of preparation of the yellow mercury oxide ointment?

**A ***Grind the substance with vaselin oil, add sterile vaselin and lanolin

B Dissolves the substance in water, add sterile vaselin and lanolin
C Grinds the substance with the melted sterile base
D Grinds the substance with glycerol, add a base
E Grinds the substance with alcohol, add sterile vaselin and lanolin

21. What ointment base is used for preparation of the ophthalmic ointment with norsulfazol?

**A ***Alloy of vaselin and lanolin (9:1)
B Emulsion base of o/w type
C Alloy of vaselin and parafin (6:4)
D Alloy of vaselin and lanolin (6:4)
E Alloy of vaselin and parafin (8:2)

22. What is the way of introduction of pilocarpine hydrochloride into the ophthalmic ointment base?

A *Dissolve in sterile purified water
B Grind with a sterile vaselin oil
C Grind with a sterile base
D Grind with a sterile vaselin
E Dissolve in the melted base

23. What is duration of sterilization for ophthalmic drops with protargol?

**A ***The solution is not sterilized
B By fluid vapour
C By autoclave
D By UV-rays
E By dry heat

24. What method is used for sterilization of ophthalmic drops with boric acid?

A *By saturated vapour and pressure
B Tyndalization
C By dry heat
D By gases
E By high-frequency current

25. A chemist's shop prepares an ophthalmic ointment. What disperse system is formed with introduction of resorcinol into the pharmacopoeian base?

A *Emulsion
B Suspension
C Solution

D Alloy
E Combined

26. What is the way of introduction of rezorcinol into the ophthalmic ointment?

A *Dissolve in a small amount of water
B Grind with glycerol
C Grind with a liquid suitable with the base
D Grind with a part of the melted base
E Grind with a base

27. A pharmacist prepares the ointment with neomycin sulphate. What ratio between vaselin and anhydrous lanolin is used?

A * 6 : 4
B 8 : 2
C 9 : 1
D 7 : 3
E 5 : 1

28. What is the way of introduction of collargol into the ophthalmic ointment?

A * Preliminary dissolve in some amount of water
B Grind with a liquid suitable with the base
C Grind with a part of the melted base
D Grind with glycerol
E Grind with the weighed base

29. What ratio between vaselin and anhydrous lanolin is used for preparation of the ophthalmic ointment with thiamine bromide?

A * 9:1
B 6:4
C 5:1
D 6:1
E 7:3

30. What is the right technology for this medicine?
Rp.: Sol. Kalii iodidi 3 % 10 ml
D.S. Ophthalmic drops.

A * Dissolve the substance in ½ of the volume of the solvent and filter through a washed filter and cotton in the bottle for dispensing, wash the filter by the rest amount of the solvent

B Dissolve the substance in all volume of the solvent and filter through a dry filter and cotton in the cylinder for measuring
C Grind the substance in a mortar with a part of the solvent, add the solvent by part and filter in the bottle for dispensing
D Dissolve the substance in the sterile solvent in the bottle for dispensing, do not filter, dispense aseptically

31. What is the way of introduction of sodium salt of benzylpenicillin into the ophthalmic base?

A ***Grind with a part of the melted base
B Dissolve in vaselin oil
C Dissolve in water
D Grind with vaselin oil

32. What formula of the ophthalmic mercury ointment is officinal?

A ***Yellow mercury ointment
B White mercury ointment
C Grey mercury ointment

33. What base is used for the ophthalmic ointment with antibiotics?

**A *Base for ophthalmic ointments [6:4]
B Base for ophthalmic ointments [8:2]
C Vaselin for ophthalmic ointments
D Base for ophthalmic ointments [9:1]
E Anhydrous lanolin for ophthalmic ointments

34. What method is used for sterilization of ophthalmic drops?
Rp.: Sol. Acidi borici 2 % 10 ml
D.S. Ophthalmic drops.

A * Dissolve the substance in all volume of purified water and filter through a dry filter and cotton in the cylinder for measuring, dilute to the required volume
B Dissolve the substance in 1/2 of the volume and filter through a filter and cotton in the bottle for dispensing
C Dissolve the substance in all volume of water and strain in the bottle for dipensing
D Dissolve the substance in 1/3 of the volume of water without filtration

35. What substance is used for making ophthalmic drops with levomycetin isotonic?

**A *Sodium chloride
B Sodium sulphate
C Sodium nitrate

D Ascorbic acid
E Glucose

36. What solvent is used for preparation of ophthalmic drops with sodium salt of benzylpenicillin?

A * Sterile isotonic solution of sodium chloride
B Purified water
C Water for injections
D Solution of novocain
E Solution of boric acid

37. What concentration of riboflavin solution is used for preparation of ophthalmic drops

**A ***0.02 %
B 0.002 %
C 0.03 %
D 0.1 %
E 0.05 %

38. What is the type of the ophthalmic ointment with sodium salt of benzylpenicillin?

**A ***Ointment-suspension
B Ointment-solution
C Ointment-emulsion
D Ointment-alloy
E Combined

39. A pharmacist prepares a medicine in aseptic conditions. What substance is prescribed?

**A ***Levomycetin
B Potassium bromide
C Dry Belladonna extract
D Anesthesin
E Sodium chloride

40. What is the way of introduction of citral solution in the ophthalmic drops?

**A ***Add in aseptic conditions after sterilization
B Add to the solution of citral all dry substances and sterilize
C Add a solvent to the solution of ciral, sterilize and mix with dry substances
D Add to the half amount of the solvent and dispense for a patient
E Add in the end and sterilize

41. What is the concentration of sodium chloride when ophthalmic drops are isotonic?

**A ***0.7 % – 1.1 %
B More than 1.1%
C 0.3 % - 1.1 %
D 0.3 % - 0.5 %
E 1 % – 2 %

42. What a kind of sterilization is used for ophthalmic drops with lydase?

**A ***Solution is not sterilized
B Fluid vapour
C By autoclave
D By UV-rays
E By dry heat

CHAPTER XII

INCOMPATIBILITIES IN DIFFERENT MEDICINAL FORMS

1. What rules and responsibilities are used by a pharmacist when incompatibility is prescribed?

**A ***A medicine is not subjected for dispensing. The prescription is provided with a stamp «Invalid prescription» and returned to the patient
B A medicine is prepared taking into account peculiarities of the technology
C A medicine is prepared after replacement of ingredients
D The prescription is returned to the patient
E A medicine is not prepared

2. A pharmacist found a physical incompatibility in this prescription:
Rp.: Phenylii salicylatis 0.25
Camphorae 0.2
M. f. pulv.
D. t. d. № 10.
S. Use 1 powder 3 times a day.
What is the cause of incompatibility?
**A ***Forming of the eutectic alloy
B Immiscible ingredients
C Stratification process

D Absorption process
E Oxidizing-restoring process

3. A pharmacist found a chemical incompatibility in this prescription.
Rp.: Infusi radicis Valerianae 200 ml
Barbitali-natrii 2.0
Natrii bromidi 5.0
M.D.S. Use 1 table spoon 3 times a day.
What process is carried out?
A *Neutralization
B Coagulation
C Hydrolysis
D Stratification
E Insoluble ingredients

4. A chemist's shop prepares the prescription with atropine sulphate and aluminium hydroxide. What process is carried out between ingredients?
A * Absorption of active substances
B Forming of steams and gases
C Oxidizing-restoring process
D Forming of the dampening mixture
E Immiscible ingredients

5. A pharmacist found a chemical incompatibility in this prescription:
Rp.: Sol. Kalii permanganatis 0.1 % 100 ml
Sirupi sacchari 5 ml
M.D.S. Use 1 teaspoon 3 times a day.
What process is carried out between ingredients?

A * Oxidizing-restoring process
B Neutralization
C Immiscible ingredients
D Hydrolysis
E Insoluble ingredients

6. A pharmacist found the incompatibility in this prescription:
Rp.: Sol. Ichthyoli 3 % 100 ml
Aquae Plumbi 50 ml
M.D.S. For compresses.
What process is carried out in this formula?

A * Coagulation
B Absorption of active substances
C Immiscible liquids
D Neutralization

E Hydrolysis

7. A pharmacist found the incompatibility in this prescription:
Rp.: Ammonii chloridi
Natrii hydrocarbonatis ana 3.0
Aquae purificatae 100 ml
M.D.S. Use 1 tablespoon 3 times a day.
What chemical process is carried out in this formula?

A * Forming of steams and gases
B Oxidizing-restoring process
C Immiscible liquids
D Absorption of active substances
E Forming of a precipitate

8. A pharmacist found the incompatibility in this prescription:
Rp.: Phenoli liquefacti 0.5
Olei Helianthi 10.0
M.D.S. Drops for ears.
What physical process is carried out in this formula?

A * Immiscible liquids
B Coagulation
C Forming of a precipitate
D Forming of the dampening mixture
E Hydrolysis

9. A pharmacist found the incompatibility in this prescription:
Rp.: Acidi acethylsalicylici 0,3
Hexamethylentetramini 0.2
M. f. pulv.
D. t. d. № 10
S. Use 1 powder 3 times a day.
Indicate a physical-chemical process carried out in this formula.

A * Forming of the dampening mixture
B Absorption of active substances
C Hydrolysis
D Neutralization
E Stratification

10. A pharmacist found the incompatibility in this prescription:
Rp.: Emulsi olei Ricini 5.0
Magnesii sulfatis 4.0
M.D.S. Use 1tablespoon at night.

Indicate a physical process carried out in this formula?

A *Stratification
B Insoluble ingredients
C Immiscible liquids
D Hydrolysis
E Forming of a precipitate

11. A pharmacist found the incompatibility in this prescription:
Rp.: Zinci sulfatis 0.05
Natrii tetraboratis 0.1
Aquae purificatae 10 ml
M.D.S. Ophthalmic drops.
Indicate a chemical process carried out in this formula.

A *The reaction of exchange with forming a precipitate
B Absorption of active substances
C Forming of the dampening mixture
D Neutralization
E Displacing of weak acids from salts

12. A pharmacist found the incompatibility in this prescription:
Rp.: Mentholi 0.5
Sol. Acidi borici 2 % 100 ml
M.D.S. For the skin.
Indicate a physical process carried out in this formula.

A * Insoluble ingredients
B Displacing of weak acids from salts
C Forming of the eutectic alloy
D Stratification
E Coagulation

13. A pharmacist found the incompatibility in this prescription:
Rp.: Infusi foliorum Digitalis ex 0.25 : 100 ml
Acidi hydrochlorici 2 ml
M.D.S. Use 1 tablespoon 3 times a day.
Indicate a chemical process carried out in this formula.

A * Hydrolysis
B Forming of a precipitate
C Neutralization
D Saponification
E Forming of steams and gases

14. A doctor prescribed the prescription with the incompatibility.
Rp.: Zinci sulfatis 0.1
Tanini 0.5
Solutionis Acidi borici 2 % 100 ml
M.D.S. External.
Indicate a chemical process carried out in this formula.

A * Forming of a precipitate
B Neutralization
C Oxidizing-restoring process
D Hydrolysis
E Forming of steams and gases

15. A pharmacist found the incompatibility in the formula with potassium permanganate and hydrogen peroxide. Indicate the type of a chemical reaction.

A * Oxidizing-restoring process
B Neutralization
C Exchanging
D Precipitating
E Displacing

16. A chemist's shop receives the prescription with the incompatibility:
Rp.: Extracti Belladonnae 0.015
Papaverini hydrochloridi 0.05
Carbonis activati 0.2
M. ut f. pulv.
D. t. d. № 10.
S. Use 1 powder 3 times a day.
What is the cause of incompatibility?

**A ***Absorption of medicinal substances
B Coagulation of the colloidal system
C Oxidizing-restoring reaction
D Acidic-alkaline interaction
E Formation of the eutectic alloy

17. A pharmacist found the incompatibility in the formula.
Rp.: Sol. Collargoli 1 % - 10 ml
Sol. Adrenalini hydrochloridi 0.1 % - 1 ml
M.D.S. Drops for nose.
Indicate the process carried out in this formula.

**A ***Oxidization
B Neutralization

C Precipitation
D Hydrolysis
E Absorption

18. A doctor prescribed ophthalmic drops with zinc sulphate and protargol. What is the type of incompatibility?

A * Coagulation of the colloidal system
B Insolubility of ingredients
C Absorption of medicinal substances
D Immiscibility
E Oxidizing-restoring process

19. A doctor prescribed the ophthalmic ointment with resorcinol and mercury amidochloride. What process is carried out?

A * Oxidation-restoration
B Stratification of the base with the medicinal substances introduced
C Absorption of medicinal substances
D Coagulation of the colloidal system
E Change of consistency

20. A pharmacist found the incompatibility in the formula.
Rp.: Infusi foliorum Digitalis ex 0.5 : 200 ml
Acidi hydrochlorici 4 ml
M.D.S. Use 1tablespoon 3times a day.
What is the type of a chemical reaction?

A * Hydrolysis
B Displacing of weak acids by the stronger ones
C Oxidation-restoration
D Exchanging destruction
E Neutralization

21. A pharmacist found the incompatibility in the formula:
Rp.: Sol. Ichthyoli 5 % - 200 ml
Zinci sulfatis 4.0
Glycerini 10.0
M.D.S. For mucous membrane.
Indicate the process carried out in this formula.

**A ***Coagulation
B Immiscibility
C Insolubility
D Stratification

E Absorption

22. A pharmacist found the incompatibility. What medicinal substances forms an eutectic alloy?

A *Chloral hydrate + camphor
B Antipyrin + analgin
C Calcium carbonate + magnesium oxide
D Calcium chloride + sodium chloride
E Platiphyllin hydrotartrate + dibazol

23. A doctor prescribed powders with the incompatibility. What substance forms an eutectic alloy with phenyl salicylate?

A *Menthol
B Analgin
C Dibazol
D Dimedrol
E Ascorbic acid

24. A chemist's shop receives a prescription with the incompatibility. What is a physical incompatibility?

A *Adsorption of active substances
B Antagonism
C Synergism
D Change of the drug consistency as a result of the chemical reaction
E Forming of a precipitate as a result of the chemical reaction

25. A physical incompatibility is prescribed. What is the cause its forming?

A *Unsolubility of medicinal substances
B Oxidation-restoration reaction
C Antagonism of medicinal substances
D Hydrolysis of medicinal substances
E Exchanging reaction

26. What is the cause of the worsening of solubility conditions for physical incompatibility?

A * Replacement of a solvent
B Antagonism of medicinal substances
C Heating of a medicine
D Cooling of a medicine
E Sterilization

27. A pharmacist prepared a medicine with a “false incompatibility”. Why is it so?

A *The medicine is prepared without a doctor’s agreement
B The medicine is not prepared
C The medicine is prepared rarely
D The medicine is prepared with a doctor’s agreement
E The medicine is prepared after the replacement of ingredients

28. What is the cause of the incompatibility in the formula with vaselin oil and the solution of adrenalin hydrochloride?

A *Immiscibility of ingredients
B Worsening of solubility conditions
C Coagulation
D Dampening
E Eutectic alloy

29. What is the cause of a physical incompatibility in this formula?
Rp.: Sol. Iodi spirituosae 10 % 0.5 ml
Sol. Acidi borici 2 % 100 ml
Misce. Da. Signa. External.

A * Worsening of solubility conditions
B Stratification
C Coagulation
D Dampening of the mixture
E Forming of boric acid crystalls

30. What is the cause of a physical incompatibility in this formula?
Rp.: Sulfuris 1.0
Olei Ricini 10.0
Spiritus aethylici 70 % 20 ml
Misce. Da.
Signa. For skin.

A *Immiscibility of castor oil with alcohol of the given concentration
B Stratification
C Worsening of solubility conditions
D Immiscibility of sulfur with alcohol of the given concentration
E Immiscibility of sulfur with castor oil

31. A doctor prescribed a mixture registered by a pharmacist as an incompatibility. What is the cause?
Rp.: Solutionis Natrii bromidi 2 % 200 ml

Validoli 4 ml
Misce. Da.
Signa. Use 1 tablespoon 3 times a day.

A * Immiscibility of ingredients
B Adsorption of medicinal substances
C Replacement of a solvent
D Forming of the unsoluble compound
E Coagulation of colloidal solutions

32. A pharmacist found the incompatibility. What medicinal substances form a dampening mixture in powders?

**A ***Acetylsalicylic acid + hexamethylentetramine
B Dimedrol + ephedrine hydrochloride
C Sodium chloride + potassium chloride
D Boric acid + salicylic acid
E Streptocide + sulphadimesine

33. A doctor prescribed powders with euphyllin, ephedrine hydrochloride and dimedrol. What process is carried out during preparation?

**A ***Dampening
B Absorption
C Stratification
D Eutectic alloy forming
E Melting

34. A doctor prescribed a dampening mixture. What auxiliary substance can be added by a pharmacist for prevention of this process?

**A ***Aerosil
B Activated coal
C White clay
D Lactic sugar
E Talc

35. What substance coagulates by an electrolyte?

**A ***Ichthyol
B Calcium chloride
C Analgin
D Salicylic acid
E Sodium bromide

36. A chemist's shop recieved a prescription with a decoction containing tannins. What the substance, which can not be prescribed in the given prescription?

**A ***Atropine sulphate
B Sodium chloride
C Glucose
D Sodium bromide
E Sugar

37. What process is carried out in the prescription with the solution of pepsin, sodium salt of benzylpenicillin and hydrochloric acid?

**A ***Inactivation of antibiotic by a strong acid
B Displacing of weak acids from stronger salt
C Precipitation
D Reaction of diazotization
E Oxidation-restoration reaction

39. During the process of preparation a mixture is coloured in a diamond-green colour.
Rp.: Antipyrini 4.0
Solutionis Natrii nitritis 1 % 200 ml
Misce. Da.
Signa. Use 1 tablespoon 3 times a day.
What is the cause of the incompatibility?

**A ***Forming of nitrozoantipyrin
B Forming of nitrogen oxide
C Hydrolysis of active substances
D Physical incompatibility
E Worsening of solubility

39. What process is carried out in the formula?
Rp.: Zinci sulfatis 2.0
Tanini 1.0
Sol. Ac. borici 2 % 200 ml
M.D.S. External.

**A ***Precipitation
B Immiscibility
C Coagulation
D Unsolubility of ingredients
E Forming a gas

40. What is the cause of the incompatibility in the formula with Manzanita decoction and Belladonna extract?

A *Forming of a precipitate
B Hydrolysis
C Oxidation-restoration process
D Forming of a gas
E Coagulation of colloidal systems

41. A pharmacist-technologist revealed the incompatibility in the following prescription:
Rp.: Mentholi 0.5
Natrii hydrocarbonatis
Natrii tetraboratis ana 1.5
Aquae purificatae 100 ml
M.D.S. 1 tablespoon twice a day.
In order to prepare this drug form the pharmacist should perform the following procedure:
A *add a stabilizer
B perform fractional dissolution
C use another solvent
D Change one of the components
E Change a dosage form