

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

- a. Chloroform extraction
- b. Salting-out**
- c. Centrifugation
- d. Infusion
- e. Ether extraction

2. Analysis of an extract by chromatographic method revealed presence of phenyl prapanolamine. It is the metabolite of the following alkaloid:

- a. Reserpine
- b. Ephedrine**
- c. Aconitine
- d. Pyrocatechin
- e. Securinin

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

- a. Extraction photometric
- b. Immunoenzyme**
- c. Photometric
- d. Chromatographic
- e. Spectrochemical in the UV region

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

- a. Diphenylcarbazide and mercury sulfate**
- b. Sodium diethyldithiocarbamate
- c. Isopropylamine
- d. Ditizone
- e. Diphenylamine

5. O-methylation is an important method of organic substances biotransformation in the body, compounds that are subject to such method contain:

- a. Phenolic groups**
- b. Tthiol groups
- c. Carboxyl groups
- d. Nitro groups
- e. Amides

6. Method of gas-liquid chromatography is often applied for identification and quantitative determination of toxicologically meaningful substances. Substances can be placed into the chromatograph dispenser in the following aggregate states:

- a. Liquid
- b. Gaseous
- c. Liquid and solid
- d. Gaseous and solid
- e. Liquid and gaseous**

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

- a. Waist
- b. Argentum
- c. Stibiy**
- d. Cadmium
- e. Zinc

8. Substances that enter the body subject to various transformations under enzymes influence. What

is the direction of mono- and polyatomic alcohol metabolism has the largest toxicological value?

- a. Hydroxylation
- b. Conjugation
- c. -
- d. Oxidization**
- e. Dealkylation

9. A chemotoxicological laboratory received a biological material. A toxicologist carries out uncontrollable analysis aimed at detection of the following group of toxic substances:

- a. Mineral acids, alkali, inorganic salts
- b. Volatile toxins**
- c. Metal toxins
- d. Medical use toxins
- e. Pesticides

10. A patient has accidentally taken a barium-containing salt. All of the following salts have toxic effect upon the human organism EXCEPT for:

- a. Barium nitrate
- b. Barium carbonate
- c. Barium sulfate**
- d. Barium acetate
- e. Barium chloride

11. A mineralizate under examination contains precipitates of barium sulfate and plumbum sulfate. These salts can be separated by means of:

- a. Solution of sodium acetate
- b. Solution of ammonium nitrate
- c. Sulfuric acid
- d. Acetic acid
- e. Solution of ammonium acetate**

12. Toxic substances can be isolated from the objects of biological origin by different methods. In case of poisoning with pesticides - derivatives of phosphoric acids - the following method is applied:

- a. Distillation with water steam from the alkaline medium
- b. Infusion with water acidified with chloric acid
- c. Dialysis aout of alkalized solutions
- d. Infusion with organic solvents**
- e. Infusion with alkalized water

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

- a. Cu
- b. Ba
- c. Pb**
- d. Ag
- e. Mn

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

- a. With sodium nitroprusside
- b. Libermans reaction
- c. With iron (III) chloride
- d. Iodoform test**
- e. With Fredes reagent

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

- a. Dealkylation
- b. Rehabilitation

c. Conjugation

**d. Hydrolysis**

e. Oxidization

16. A patient got poisoned with nitrites. Nitrite detection by means of azo dye reaction involves using such acid:

a. Salicylic

**b. Sulfanilic**

c. Phosphoric

d. Sulfuric

e. Hydrochloric

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

a. 3-acetylmorphine and morphine

**b. Morphine and 6-monoacetylmorphine**

c. Morphine

d. Codeine

e. 6-acetylmorphine

18. Forensic toxicological analysis is often done for the metabolism products of toxic substances. Amino benzophenones are generated during biotransformation of:

**a. 1,4-benzodiazepines**

b. Barbiturates

c. Opiates

d. Butyrophenones

e. Phenothiazines

19. Determination of pH of a biological material by means of indicator paper is applied for the preliminary conclusion about substances that might have caused intoxication. The indicator paper moistened with plumbum acetate solution was exposed to the evaporations of the material under examination and turned black. This indicates that the material under examination contains:

a. Carbon monoxide

b. Carbonic gas

c. Ammonia

d. Methane

**e. Hydrogen sulfide**

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

a. Water

b. Chloroform

c. Acetone

**d. Benzol**

e. Ethanol

21. What substance will impede reaction of iodoform test aimed at detection of ethyl alcohol in the biological material?

a. Formaldehyde

**b. Acetone**

c. Isoamyl alcohol

d. Methanol

e. Phenol

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

a. Hexacyanoferrate (II)

b. Dithizone

c. Diethyldithiocarbamate

d. Sulfide

e. Tetraiodomercurate

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

a. Ether extraction

b. Chloroform extraction

c. Infusion

d. Centrifugation

e. Salting-out

24. Analysis of an extract by chromatographic method revealed presence of phenyl propranolamine. It is the metabolite of the following alkaloid:

a. Pyrocatechin

b. Securinin

c. Reserpine

d. Ephedrine

e. Aconitine

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

a. Sodium diethyldithiocarbamate

b. Diphenylamine

c. Diphenylcarbazide and mercury sulfate

d. Dinitrophenol

e. Isopropylamine

26. In the medical practice this compound is used as a disinfectant. In case of intoxication with this compound the patient's urine turns olive or olive-black. Specify the compound:

a. Isoamyl alcohol

b. Ethyl ether

c. Ethyl benzoate

d. Phenol

e. Iodoform

27. O-methylation is an important method of organic substances biotransformation in the body, compounds that are subject to such method contain:

a. Nitro groups

b. Carboxyl groups

c. Amides

d. Thiol groups

e. Phenolic groups

28. Method of gas-liquid chromatography is often applied for identification and quantitative determination of toxicologically meaningful substances. Substances can be placed into the chromatograph dispenser in the following aggregate states:

a. Liquid and solid

b. Liquid

c. Gaseous

d. Liquid and gaseous

e. Gaseous and solid

29. Preliminary tests involve using various kinds of indicator paper. Blackening of the indicator paper treated with plumbum acetate indicates that the biological object contains:

a. Sulphuric acid

b. Sodium hydroxide

c. Hydrogen chloride

d. Ammonium hydroxide

**e. Hydrogen sulphide**

30. An obtained mineralisate contains sulphates of lead, barium and strontium in form of white precipitation. What procedure will allow to separate the lead sulphate?

a. Dissolution in concentrated sulphuric acid

b. Conversion into diethyldithiocarbamate

c. Conversion into arsine

**d. Dissolution in ammonium acetate**

e. Conversion into carbonate

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

a. Dealkylation

b. Hydroxylation

**c. Oxidization**

d. Conjugation

e. -

32. A chemotoxicological laboratory received a biological material. A toxicologist carries out uncontrollable analysis aimed at detection of the following group of toxic substances:

**a. Volatile toxins**

b. Metal toxins

c. Mineral acids, alkali, inorganic salts

d. Pesticides

e. Medical use toxins

33. During the chemico-toxicological study of the dialysate of an aqueous extract, the ammonia test is not carried out if the dialysate includes the following substance:

a. Sulphurous acid

b. Nitric acid

c. Nitrous acid

**d. Hydrogen sulphide**

e. Sulphuric acid

34. A forensic chemical laboratory received an object for analysis. The analysis involves quantitative determination of mercury by means of a reaction with dithizone. What physical-chemical method is used within this analysis?

a. Thin layer chromatography

**b. Extraction photolorimetry**

c. UV spectrophotometry

d. Gas-liquid chromatography

e. IR spectrophotometry

35. Most alkaloids are isolated from the biological material by polar solvents. Which of the listed alkaloids is isolated by the way of distillation with water vapour?

a. Atropine

b. Quinine

c. Strychnine

d. Cocaine

**e. Coniine**

36. A patient has accidentally taken a barium-containing salt. All of the following salts have toxic effect upon the human organism EXCEPT for:

a. Barium chloride

**b. Barium sulfate**

c. Barium nitrate

d. Barium carbonate

e. Barium acetate

37. A mineralizate under examination contains precipitates of barium sulfate and plumbum sulfate. These salts can be separated by means of:

a. Acetic acid

b. Sulfuric acid

c. Solution of ammonium acetate

d. Solution of sodium acetate

e. Solution of ammonium nitrate

38. Name a "metal poison" which is isolated from the biological material by the method of destruction:

a. Cadmium

b. Stibium

c. Mercury

d. Silver

e. Arsenic

39. Toxic substances can be isolated from the objects of biological origin by different methods. In case of intoxication with pesticides - derivatives of phosphoric acids - the following method is applied:

a. Distillation with water steam from the alkaline medium

b. Infusion with water acidified with chloric acid

c. Dialysis from alkalized solutions

d. Infusion with organic solvents

e. Infusion with alkalized water

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

a. Mn

b. Pb

c. Cu

d. Ba

e. Ag

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

a. Libermann's reaction

b. With iron (III) chloride

c. With sodium nitroprusside

d. With Fehling's reagent

e. Iodoform test

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

a. Rehabilitation

b. Conjugation

c. Dealkylation

d. Oxidization

e. Hydrolysis

43. While studying the reaction of an "acid" chloroform extraction in acidic medium with sodium nitrite, a forensic toxicologist got a compound stained emerald green. Which of the substances is capable of forming the mentioned nitroso compound?

a. Antipyrine

b. Amidopyrine

c. Salicylic acid

d. Noxiron

e. Analgin

44. A patient got poisoned with nitrites. Nitrite detection by means of azo dye reaction involves using

such acid:

- a. Salicylic
- b. Sulphanilic**
- c. Phosphoric
- d. Sulphuric
- e. Hydrochloric

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

- a. Morphine
- b. Codeine
- c. Morphine and 6-monoacetylmorphine**
- d. 6-acetylmorphine
- e. 3-acetylmorphine and morphine

46. Forensic toxicological analysis is often done for the metabolism products of toxic substances. Amino benzophenones are generated during biotransformation of:

- a. Opiates
- b. 1,4-benzodiazepines**
- c. Barbiturates
- d. Phenothiazines
- e. Butyrophenones

47. Determination of pH of a biological material by means of indicator paper is applied for the preliminary conclusion about substances that might have caused intoxication. The indicator paper moistened with plumbum acetate solution was exposed to the evaporations of the material under examination and turned black. This indicates that the material under examination contains:

- a. Methane
- b. Ammonia
- c. Hydrogen sulfide**
- d. Carbon monoxide
- e. Carbonic gas

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

- a. Chloroform
- b. Acetone
- c. Water
- d. Ethanol
- e. Benzol**

49. Oxidation of some toxins within the body results in generation of compounds that increase their toxicity. Thus, due to the oxidation of heptachlor in the body the following compound is formed:

- a. Carbon dioxide
- b. Carbon monoxide
- c. Heptachlor epoxide**
- d. Heptachlor oxide
- e. Hexachlorocyclohexane

50. What substance will impede reaction of iodoform test aimed at detection of ethyl alcohol in the biological material?

- a. Phenol
- b. Formaldehyde
- c. Methanol
- d. Isoamyl alcohol
- e. Acetone**

51. Ions of some metal make it difficult to detect zinc ions in the mineralizate. For this reason zinc is

separated from mineralizate by converting it into:

- a. Dithizone
- b. Sulfide
- c. Tetraiodomercurate
- d. Diethyldithiocarbamate**
- e. Hexacyanoferrate (II)

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

- a. Centrifugation
- b. Infusion
- c. Salting-out**
- d. Ether extraction
- e. Chloroform extraction

53. Analysis of an extract by chromatographic method revealed presence of phenyl propranolamine. It is the metabolite of the following alkaloid:

- a. Aconitine
- b. Pyrocatechin
- c. Ephedrine**
- d. Securinin
- e. Reserpine

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

- a. Chromatographic
- b. Spectrochemical in the UV region
- c. Extraction photometric
- d. Immunoassay**
- e. Photometric

55. A patient got intoxicated with an unknown substance. Test of biological material revealed pH=2,0-3,0. The chemico-toxicological analysis should be carried out for the following group of substances:

- a. Weak organic acids and heavy metal salts
- b. Alkali metal salts
- c. Alkalis
- d. Ammonia
- e. Mineral acids or large amounts of organic acids**

56. A woman died from pesticide poisoning as a result of processing of agricultural crops. Measurement of organophosphorous compounds in the extracts of biological material should be started with the following test:

- a. Test for the presence of a sulfur atom
- b. Biochemical assay**
- c. Test for methoxy or ethoxy groups
- d. Test for the phosphate ion
- e. Test for the presence of chlorine atom

57. In the medical practice this compound is used as a disinfectant. In case of intoxication with this compound the patient's urine turns olive or olive-black. Specify the compound:

- a. Ethyl ether
- b. Ethyl benzoate
- c. Isoamyl alcohol
- d. Iodoform
- e. Phenol**

58. O-methylation is an important way of biotransformation of organic substances in the body.



Compounds subject to O-methylation should contain:

- a. Nitro groups
- b. Carboxyl groups
- c. Amino groups
- d. Thiol groups
- e. Phenol groups**

59. Method of gas-liquid chromatography is often applied for identification and quantitative determination of toxicologically meaningful substances. Substances can be placed into the chromatograph dispenser in the following aggregate states:

- a. Gaseous and solid
- b. Liquid and solid
- c. Liquid and gaseous**
- d. Liquid
- e. Gaseous

60. Preliminary tests involve using various kinds of indicator paper. Blackening of the indicator paper treated with plumbum acetate indicates that the biological object contains:

- a. Sodium hydroxide
- b. Hydrogen sulphide**
- c. Ammonium hydroxide
- d. Hydrogen chloride
- e. Sulphuric acid

61. An obtained mineralisate contains sulphates of lead, barium and strontium in form of white precipitation. What procedure will allow to separate the lead sulphate?

- a. Conversion into diethyldithiocarbamate
- b. Conversion into arsine
- c. Dissolution in concentrated sulphuric acid
- d. Conversion into carbonate
- e. Dissolution in ammonium acetate**

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

- a. Stibiy**
- b. Waist
- c. Zinc
- d. Cadmium
- e. Argentum

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

- a. Oxidization**
- b. Dealkylation
- c. -
- d. Conjugation
- e. Hydroxylation

64. A chemotoxicological laboratory received a biological material. A toxicologist carries out uncontrollable analysis aimed at detection of the following group of toxic substances:

- a. Medical use toxins
- b. Pesticides
- c. Mineral acids, alkali, inorganic salts
- d. Volatile toxins**
- e. Metal toxins

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

- a. Propanol acidified with oxalic acid
- b. Water alkalized with ammonia solution

**c. Chloroform**

- d. Ethanol acidified with oxalic acid
- e. Water acidified with sulfuric acid

66. During the chemico-toxicological study of the dialysate of an aqueous extract, the ammonia test IS NOT carried out if the dialysate includes the following substance:

- a. Sulphurous acid
- b. Nitric acid
- c. Nitrous acid

**d. Hydrogen sulphide**

- e. Sulphuric acid

67. A forensic chemical laboratory received an object for analysis. The analysis involves quantitative determination of mercury by means of a reaction with dithizone. What physical-chemical method is used within this analysis?

- a. UV spectrophotometry
- b. Gas-liquid chromatography

**c. Extraction photolorimetry**

- d. IR spectrophotometry
- e. Thin layer chromatography

68. Most alkaloids are isolated from the biological material by means of polar solvents. Which of the listed alkaloids is isolated by the way of distillation with water vapour?

- a. Quinine

**b. Coniine**

- c. Cocaine
- d. Strychnine
- e. Atropine

69. A mineralizate under examination contains precipitates of barium sulfate and plumbum sulfate. These salts can be separated by means of:

- a. Solution of ammonium nitrate

**b. Solution of ammonium acetate**

- c. Acetic acid
- d. Sulfuric acid
- e. Solution of sodium acetate

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

**a. Pb**

- b. Cu
- c. Mn
- d. Ag
- e. Ba

71. Urine of an intoxicated person was found to contain ecgonine. This indicates poisoning with the following substance:

**a. Cocaine**

- b. Caffeine
- c. Heroin
- d. Phenol
- e. Phenacetin

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

- a. With iron (III) chloride

**b. Iodoform test**

- c. With Fredes reagent
- d. With sodium nitroprusside
- e. Libermans reaction

73. Forensic toxicological analysis of a mineralizate revealed copper. For preliminary determination of copper ions the following substance is used:

- a. Dithizone
- b. Sodium diethyldithiocarbamate
- c. Plumbum diethyldithiocarbamate**
- d. Diphenylcarbazine
- e. Diphenylamine

74. A patient got intoxicated with nitrites. Nitrites can be detected by means of the reaction of azo-dye formation with the following acid:

- a. Salicylic
- b. Sulfanilic**
- c. Phosphoric
- d. Sulfuric
- e. Hydrochloric

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

- a. Morphine and 6-monoacetylmorphine**
- b. Morphine
- c. 3-acetylmorphine and morphine
- d. 6-acetylmorphine
- e. Codeine

76. Forensic toxicological analysis is often done for the metabolism products of toxic substances. Amino benzophenones are generated during biotransformation of:

- a. Phenothiazines
- b. Butyrophenones
- c. Opiates
- d. 1,4-benzodiazepines**
- e. Barbiturates

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

- a. Ethanol
- b. Water
- c. Benzol**
- d. Chloroform
- e. Acetone

78. Oxidation of some toxins within the body results in generation of compounds that increase their toxicity. Thus, due to the oxidation of heptachlor in the body the following compound is formed:

- a. Hexachlorocyclohexane
- b. Heptachlor epoxide**
- c. Carbon dioxide
- d. Carbon monoxide
- e. Heptachlor oxide

79. A sample of biological material contains mercury. Specify the method of mercury isolation:

- a. Mineralization
- b. Isolation by organic solvents
- c. Isolation by acidified alcohol
- d. Destruction**
- e. Steam distillation

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

- a. Ditzone
- b. Isopropylamine
- c. Diphenylamine
- d. Sodium diethyldithiocarbamate
- e. Diphenylcarbazide and mercury sulfate**

81. Immunochemical test for detection of opiates in urine is carried out on polystyrene plates with the use of horseradish peroxidase as a label. This method is classified as:

- a. Homogeneous immunofluorescence
- b. Homogeneous immunoassay
- c. Heterogeneous immunoassay**
- d. Heterogeneous immunofluorescence
- e. Heterogeneous radioimmunoassay

82. A woman died from pesticide poisoning as a result of processing of agricultural crops. Measurement of organophosphorous compounds in the extracts of biological material should be started with the following test:

- a. Test for the phosphate ion
- b. Test for the presence of chlorine atom
- c. Test for the presence of a sulfur atom
- d. Biochemical assay**
- e. Test for methoxy or ethoxy groups

83. In the medical practice this compound is used as a disinfectant. In case of intoxication with this compound the patients urine turns olive or olive-black. Specify the compound:

- a. Phenol**
- b. Iodoform
- c. Ethyl benzoate
- d. Ethyl ether
- e. Isoamyl alcohol

84.  $\omega$ -methylation is an important way of biotransformation of organic substances in the body. Compounds subject to  $\omega$ -methylation should contain:

- a. Thiol groups
- b. Amino groups
- c. Phenol groups**
- d. Nitro groups
- e. Carboxyl groups

85. Preliminary tests involve using various kinds of indicator paper. Blackening of the indicator paper treated with plumbum acetate indicates that the biological object contains:

- a. Hydrogen chloride
- b. Sulphuric acid
- c. Sodium hydroxide
- d. Hydrogen sulphide**
- e. Ammonium hydroxide

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

- a. Alkyl sulfates
- b. Alkyl acetates
- c. Alkyl nitrates
- d. Alkyl sulfites
- e. Alkyl nitrites**

87. An obtained mineralisate contains sulphates of lead, barium and strontium in form of white

precipitation. What procedure will allow to separate the lead sulphate?

- a. Conversion into carbonate
- b. Dissolution in concentrated sulphuric acid
- c. Dissolution in ammonium acetate**
- d. Conversion into diethyldithiocarbamate
- e. Conversion into arsine

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

- a. Codeine
- b. Ephedrine
- c. Benzonal**
- d. Aminazine
- e. Papaverine

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

- a. Propanol acidified with oxalic acid
- b. Water alkalized with ammonia solution
- c. Chloroform**
- d. Ethanol acidified with oxalic acid
- e. Water acidified with sulfuric acid

90. During the chemico-toxicological study of the dialysate of an aqueous extract, the ammonia test IS NOT carried out if the dialysate includes the following substance:

- a. Nitrous acid
- b. Hydrogen sulphide**
- c. Sulphuric acid
- d. Sulphurous acid
- e. Nitric acid

91. A forensic chemical laboratory received an object for analysis. The analysis involves quantitative determination of mercury by means of a reaction with dithizone. What physical-chemical method is used within this analysis?

- a. Extraction photocolourimetry**
- b. UV spectrophotometry
- c. Thin layer chromatography
- d. IR spectrophotometry
- e. Gas-liquid chromatography

92. Most alkaloids are isolated from the biological material by means of polar solvents. Which of the listed alkaloids is isolated by the way of distillation with water vapour?

- a. Atropine
- b. Quinine
- c. Strychnine
- d. Cocaine
- e. Coniine**

93. A patient has accidentally taken a barium-containing salt. All of the following salts have toxic effect upon the human organism EXCEPT for:

- a. Barium acetate
- b. Barium chloride
- c. Barium carbonate
- d. Barium nitrate
- e. Barium sulfate**

94. Name a "metal poison" which is isolated from the biological material by the method of

destruction:

- a. Mercury
- b. Cadmium
- c. Arsenic
- d. Silver
- e. Stibium

95. Toxic substances can be isolated from the objects of biological origin by different methods. In case of intoxication with pesticides - derivatives of phosphoric acids - the following method is applied:

- a. Infusion with organic solvents
- b. Infusion with alkalized water
- c. Dialysis from alkalized solutions
- d. Infusion with water acidified with chloric acid
- e. Distillation with water steam from the alkaline medium

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

- a. Ba
- b. Ag
- c. Mn
- d. Pb
- e. Cu

97. Urine of an intoxicated person was found to contain ecgonine. This indicates poisoning with the following substance:

- a. Heroin
- b. Cocaine
- c. Caffeine
- d. Phenacetin
- e. Phenol

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

- a. With Fehdes reagent
- b. With sodium nitroprusside
- c. Iodoform test
- d. Libermans reaction
- e. With iron (III) chloride

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

- a. Conjugation
- b. Hydrolysis
- c. Oxidization
- d. Dealkylation
- e. Rehabilitation

100. Forensic toxicological analysis of a mineralizate revealed copper. For the initial detection of copper ions the following substance is used:

- a. Diphenylamine
- b. Plumbum diethyldithiocarbamate
- c. Dithizone
- d. Sodium diethyldithiocarbamate
- e. Diphenylcarbazine

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

- a. Ethyl mercury chloride
- b. Dichlorvos

- c. Hexachlorocyclohexane
- d. DDT
- e. Heptachlor

102. While studying the reaction of an "acid" chloroform extraction in acidic medium with sodium nitrite, a forensic toxicologist got a compound stained emerald green. Which of the substances is capable of forming the mentioned nitroso compound?

- a. Amidopyrine
- b. Analgin
- c. Antipyrine**
- d. Noxiron
- e. Salicylic acid

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

- a. Acetone
- b. Benzol**
- c. Ethanol
- d. Water
- e. Chloroform

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

- a. Tetraiodomercurate
- b. Diethyldithiocarbamate**
- c. Hexacyanoferrate (II)
- d. Dithizone
- e. Sulfide