CONTROL AND MEASURING TOOLS

Questions of the program for the midterm control 1

Educational program	6B07201 «Technology of pharmaceutical production»
Discipline code	MOFA 4301
Discipline	Methods and equipment for pharmaceutical analysis
Number of credits (ECTS):	120 hours/4 credits
Course	4 56 00 60 11. 12 66 00 11. 16
Semester	VII SE MO CO ALL. IL AL MO. CO

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c/7, vg.	Department of Pharmaceutical and Toxicological Chemistry	044-55/
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Authors: 1. D.Pharm.Sc., Professor Ordabaeva S.K. 2. Ph.Tech.Sc., Acting Professor Asylbekova A.D. 3. senior teacher Dzhanaralieva K.S.				
Head of the department, Professor	o.grn	Ordabayeva S.K.		
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Questions for the midterm assessment program 1

- 1. What is the absorption spectrum of a substance? What do absorption spectra in the visible region represent?
- 2. The device and operating principle of a refractometer. Rules for working with refractometers.
- 3. The fundamental law of light absorption.
- 4. What is the refractive index, what factors does it depend on, and how is it calculated?
- 5. What causes the selective absorption of light by molecules?
- 6. Define interpolation and provide a specific example.
- 7. How is a monochromatic light flux obtained in a spectrophotometer?
- 8. Application of IR spectroscopy methods in determining the authenticity of drugs. The role of the detector.
- 9. What is the role of chromophore and auxochrome groups in a molecule when recording absorption spectra?
- 10. Methods for calculating the concentration of a solution using the refractometric method of analysis.
- 11. Equipment for conducting polarimetry.
- 12. Define the following terms: chromophore, bathochromic, hypochromic, hypochromic effects.
- 13.On what is the determination of the concentration of solutions using photometric analysis methods based?
- 14. Features of the analysis of tablet dosage forms.
- 15. The device of a spectrophotometer and its operating principle.
- 16.List the main characteristics of spectral instruments.
- 17. Rules for working with KFK and SF-2000.
- 18. How are components on paper and thin-layer chromatograms detected and identified?
- 19. Features of the analysis of capsule dosage forms?
- 20. What quantities does the Beer-Lambert-Bouguer law relate?
- 21. Mechanisms of sorption (adsorption, absorption), desorption.
- 22. What is optical density?
- 23. Classification of chromatography by execution technique.
- 24. List the main components of a photoelectrocolorimeter and indicate their purpose.
- 25. Requirements for the quality of dragees.
- 26. What are light filters? What is their purpose?
- 27. How is the uniformity of dosage in tablets tested?

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Authors: 1D.Pharm.Sc., Professor Ordabaeva S.K. 2Ph.Tech.Sc., Acting Professor Asylbekov 3senior teacher Dzhanaralieva K.S.			
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Questions of the program for the midterm control 2

- 1. Methods based on the use of dependence of physical properties on chemical composition of analyzed substances.
- 2. Chromatogram. Methods of detection of substances on chromatogram in TLC.
- 3. Possibilities and limitations of application of TLC method in pharmacy.
- 4. Name three methods of detection in gas and liquid chromatography.
- 5. Main stages (steps) of chromatography in thin layer of sorbent.
- 6. Potentiometric titration.
- 7. Validation of methods of test "Dissolution".
- 8. Polarimetry.
- 9. Instrumental methods of testing solid dosage forms.
- 10. Chromatographic methods in pharmaceutical analysis.
- 11. Refractometry
- 12. Disintegration test of solid dosage forms.
- 13. Optical methods of research in pharmaceutical analysis.
- 14. Strength and abrasion test of solid dosage forms.
- 15. Application of IR spectroscopy in pharmaceutical analysis.
- 16. Definitions of the capsule dissolution test?
- 17. Theoretical foundations of liquid chromatography. Classification. Advantages and disadvantages.
- 18. Instrumental testing methods for individual quality indicators.
- 19. Definitions of capsule disintegration?
- 20. Theoretical foundations of gas chromatography.
- 21. Validation characteristics and requirements.
- 22. Application of mass spectroscopy in pharmaceutical analysis.
- 23. Potentiometry.
- 24. Mass spectroscopy.
- 25. Liquid chromatography in drug quality control.
- 26. Methods based on the use of a magnetic field. Application of NMR spectroscopy in pharmaceutical analysis.
- 27. Near IR spectroscopy. Theoretical foundations of methods. Basic concepts.
- 28. Anodic polarography.
- 29. Cathode polarography.
- 30. Equipment for liquid chromatography in pharmaceutical analysis.
- 31. Gas chromatography in quality control of medicines.
- 32. Equipment for gas chromatography.
- 33. Optical research methods in pharmaceutical analysis.
- 34. Instrumental methods for testing solid dosage forms.
- 35. Liquid chromatography in quality control of medicines.

Questions of the program for midterm assessment

- 1. What is an absorption spectrum of a substance? What do absorption spectra in the visible region represent?
- 2. The device and operating principle of a refractometer. Rules for working with refractometers.
- 3. The fundamental law of light absorption.
- 4. What is the refractive index? What factors does it depend on, and how is it calculated?
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- 12. Define the following terms: chromophore, bathochromic, hyperchromic, and hypochromic effects.
- 13. On what basis is the determination of the concentration of solutions using photometric analysis methods?
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- 25. Requirements for the quality of dragees.
- 26. What are light filters? What is their purpose?
- 27. How is the uniformity of dosage in tablets tested?

- 28. Methods based on the use of the dependence of physical properties on the chemical composition of the analyzed substances.
- 29. Chromatogram. Methods for detecting substances on a chromatogram in TLC.
- 30. Possibilities and limitations of using the TLC method in pharmacy.
- 31. Name three detection methods in gas and liquid chromatography.
- 32. The main stages of thin-layer chromatography.
- 33. Potentiometric titration.
- 34. Validation of the "Dissolution" test methods.
- 35. Polarimetry.
- 36. Instrumental methods for testing solid dosage forms.
- 37. Chromatographic methods in pharmaceutical analysis.
- 38. Refractometry.
- 39. The disintegration test for solid dosage forms.
- 40. Optical methods of investigation in pharmaceutical analysis.
- 41. The test for the strength and abrasion of solid dosage forms.
- 42. Application of IR spectroscopy in pharmaceutical analysis.
- 43. Definitions of the "Dissolution" test for capsules?
- 44. Theoretical foundations of liquid chromatography. Classification. Advantages and disadvantages.
- 45. Instrumental methods for testing individual quality indicators.
- 46. Definitions of the disintegration of capsules?
- 47. Theoretical foundations of gas chromatography.
- 48. Validation characteristics and requirements.
- 49. Application of Mass spectrometry in pharmaceutical analysis.
- 50. Potentiometry.
- 51. Mass spectrometry.
- 52. Liquid chromatography in quality control of drugs.
- 53. Methods based on the use of a magnetic field. Application of NMR spectroscopy in pharmaceutical analysis.
- 54. Near-infrared spectroscopy. Theoretical foundations of methods. Basic concepts.
- 55. Anodic polarography.
- 56. Cathodic polarography.
- 57. Equipment for conducting liquid chromatography in pharmaceutical analysis.
- 58. Gas chromatography in quality control of drugs.
- 59. Equipment for gas chromatography.
- 60. Optical methods of investigation in pharmaceutical analysis.
- 61. Instrumental methods for testing solid dosage forms.
- 62. Liquid chromatography in quality control of drugs.

OŃTÚSTIK-QAZAQSTAN MEDISINA AKADEMIASY «Оңтүстік Қазақстан медицина академиясы» АҚ ОЙТÚSTIK-QAZAQSTAN MEDICAL ACADEMY ACADEMY AO «Южно-Казахстанская медицинская акадея		
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