

MINISTRY OF SCIENCE AND HIGHER EDUCATION  
OF THE RUSSIAN FEDERATION

Federal State Educational Institution of Higher Education  
«Perm State University»

Approved by the Academic Council of PSU «02»  
July 2020 Protocol No. 12

**PROGRAM OF STATE FINAL CERTIFICATION OF GRADUATES BY SPECIALTY**  
**33.05.01 PHARMACY**

**PERM 2020**

## **GENERAL PROVISIONS**

This program defines the procedure for organizing and conducting the state final certification in the specialty 33.05.01 Pharmacy at the Federal State Educational Institution of Higher Education «Perm State University» (PSU).

In accordance with the Law of the Russian Federation of December 29, 2012, No. 273-FL "On Education in the Russian Federation", the development of educational programs of higher education is completed by the state final certification (SFC) of graduates. State final certification of a graduate is mandatory and is carried out after mastering the educational program in full, taking into account the entire set of acquired competencies.

The documents on the basis of which the SFC Program was developed are:

- Federal Law of December 29, 2012, No. 273-FL "On Education in the Russian Federation" (with amendments and additions);
- SEES in the specialty 33.05.01 Pharmacy, approved by the Academic Council of Perm State University of May 25, 2016 No. 10;
- The procedure for organizing and carrying out educational activities for educational programs of higher education - bachelor's programs, specialty programs, master's programs, approved by order of the Ministry of Education and Science of the Russian Federation of December 19, 2013 No. 1367;
- The procedure for conducting state final certification for educational programs of higher education - bachelor's programs, specialist programs and master's programs, approved by order of the Ministry of Education and Science of the Russian Federation of June 29, 2015, No. 636;
- Regulations on the procedure for conducting state final attestation for educational programs of higher education - bachelor's programs, specialist programs and master's programs at PSU (hereinafter, the Regulation on the procedure for SFC PSU);
- Educational program of higher education in the specialty 33.05.01 Pharmacy, approved at a meeting of the Academic Council of PSU on 27.04.2016, protocol No. 9;
- Curriculum for the specialty 33.05.01 Pharmacy.

The total labor intensity of the state final certification of a specialist is 6 credit units or 4 weeks, including: preparation and defense of the final qualifying work - 2 weeks and preparation and passing of the state exam - 2 weeks.

### **Goals and objectives of the state final certification**

In accordance with the Federal Law of the Russian Federation No. 273-FL of December 29, 2012 "On Education in the Russian Federation" (Part 5, Article 59), the final certification of graduates completing their studies in higher professional education programs is mandatory.

The purpose of the final certification is to determine the compliance of the level of professional training of the graduate to perform professional tasks and the compliance of his training with the requirements of the self-established educational standard (SEES) of PSU.

State final certification in the specialty 33.05.01 Pharmacy at PSU consists of passing the state exam and defending the final qualifying work. The procedure for conducting state attestation tests is developed by the higher educational institution and communicated to students of all forms of education no later than six months before the start of the state final attestation. Students who have successfully completed the full development of the educational program in the specialty 33.05.01 Pharmacy, developed by a higher educational institution in accordance with the requirements of the PSU SEES, and have passed all the exams and tests established by the curriculum, are admitted to the state final certification.

The area of professional activity and areas of professional activity in which graduates who have mastered the specialty program in specialty 33.05.01 Pharmacy (hereinafter - graduates) can carry out professional activities is: pharmaceutical activities in the field of drug circulation, in accordance with the current legislation of the Russian Federation and

professional standards.

Graduates can carry out professional activities in other areas of professional activity and (or) areas of professional activity, provided that their level of education and acquired competencies correspond to the requirements for employee qualifications.

### **Types of professional activity for which graduates are prepared:**

#### **Pharmaceutical activity**

- production and manufacture of medicines;
- sale of medicines;
- provision of conditions for storage and transportation of medicines;
- participation in carrying out procedures related to the circulation of medicines;
- participation in quality control of medicines;
- provision of information about medicinal products within the limits established by the current legislation;
- carrying out sanitary and educational work with the population;
- formation of motivation of citizens to maintain health.

#### **Research activities**

- analysis of scientific literature and official statistical reviews, participation in statistical analysis and public presentation of the results;
- participation in the solution of individual research and scientific-applied problems in the field of drug circulation.

#### **Organizational and managerial activities**

- participation in the organization of production and manufacture of medicines;
- organization and implementation of measures for the storage, transportation, seizure and destruction of medicines;
- participation in the organization and management of the activities of organizations involved in the circulation of medicines, and (or) their structural units;
- participation in the organization of measures for occupational health and safety, prevention of occupational diseases, compliance control and environmental safety;
- maintaining accounting and reporting documentation in a pharmaceutical organization;
- compliance with the basic requirements of information security.

### **PLANNED RESULTS IN ACCORDANCE WITH THE PLANNED RESULTS OF THE LEARNING OF THE EDUCATIONAL PROGRAM**

**The list of general cultural, general professional and professional competencies that a student must master as a result of mastering the educational program and tested at the SFC.**

In accordance with the SEES of PSU and EP, as a result of the successful completion of the SFC, the graduate should have the following general cultural, general professional and professional competencies:

GCC -1 Possess a culture of thinking, the ability to use the foundations of philosophical knowledge to form an ideological position, the ability to perceive, critically evaluate and generalize new knowledge;

GCC-2 Владеть навыками коммуникации, уметь аргументировано и грамотно строить устную и письменную речь на русском языке, способность к общению в социальной и производственной деятельности;

GCC-3 Ability to work independently and in a team, be able to find and make organizational and managerial decisions, evaluate their effectiveness;

GCC-4 Critically analyze and evaluate your professional and social experience, if necessary, the readiness to change the profile of your professional activity, to demonstrate a readiness for self-development and self-improvement, professional development and skill improvement;

GCC -5 Ability to apply legal and ethical norms in their professional activities and assess its consequences, to know their rights and the ability to take a civic position;

GCC -6 Ability to analyze socially significant problems and processes;

GCC -7 Know and respect the historical heritage and cultural traditions of their country, tolerantly perceive social, ethnic, confessional and cultural differences, the ability to analyze the main stages and patterns of the historical development of society;

GCC -8 Possess the basic vocabulary and grammar of one of the foreign languages, the basics of colloquial speech; the ability to read texts on general educational and professional topics, to convey their content in Russian and foreign languages;

GCC -9 Possess basic knowledge in the field of computer science, skills in using software and working in computer networks, the ability to acquire new knowledge using modern information technologies;

GCC -10 To understand the essence and significance of information in the development of modern society, to comply with the basic requirements of information security, including the protection of state secrets;

GCC -11 Readiness to use the main methods of protecting production personnel and the population from the possible consequences of accidents, catastrophes, natural disasters;

GCC -12 Understand and strive to comply with the norms of a healthy lifestyle, own the means of independent use of methods of physical education and health promotion;

GCC -13 Possess a basic understanding of the foundations of psychology, be able to build interpersonal relationships;

GCC -14 To have an idea of the systems approach in natural sciences, demonstrate a systematic understanding of the professional field;

GCC -15 Possess knowledge of the basics of economics in solving social and professional problems;

GPC-1 Know the basic theories, teachings and concepts in the professional field;

GPC -2 Possess modern methods of natural science research, data analysis, design;

GPC-3 Ability to master new technologies and apply them to conduct natural science research;

GPC -4 Have basic knowledge in the field of fundamental sections of mathematics in the amount necessary for mastering the mathematical apparatus in the professional field, for processing and analyzing observational data;

GPC -5 Possess basic knowledge of the modern scientific picture of the world based on the provisions, laws and methods of natural sciences;

GPC -6 Willingness to participate in scientific research;

GPC -7 Possess safety standards and the ability to implement them in laboratory and technological conditions;

GPC -8 Ability to solve problems of professional activity based on information and bibliographic culture using information and communication technologies and computing facilities, taking into account the basic requirements of information security;

GPC -9 Ability and willingness to analyze the results of their own activities to prevent professional mistakes;

GPC -10 Readiness to maintain the documentation provided for in the production and circulation of medicines;

GPC -11 Readiness to use basic physical and chemical, mathematical and other natural science concepts and methods in solving professional problems;

GPC -12 Ability to assess morphofunctional, physiological conditions and pathological processes in the human body for solving professional problems;

GPC -13 Readiness for the use of specialized equipment and medical devices intended for use in the professional field;

GPC -14 Readiness to use first aid techniques;

GPC -15 Ability and willingness to implement ethical and deontological principles in professional activities;

GPC -16 Possess knowledge of the basics of Latin grammar and the ability to read Latin texts with a dictionary;

GPC -17 Ability to act in non-standard situations, to bear social and ethical responsibility for the decisions made;

PC-1 Ability to ensure quality control of medicines in the conditions of pharmaceutical organizations;

PC-2 Ability to conduct examinations provided for in the state registration of medicinal products;

PC-3 Ability to carry out technological processes in the production and manufacture of medicines;

PC-4 Readiness to implement the sale of medicines in accordance with the rules of wholesale trade, the procedure for retail sale and the procedure for the transfer of medicines established by law;

PC-5 Ability to organize the procurement of medicinal plant raw materials, taking into account the rational use of medicinal plant resources;

PC-6 Readiness to ensure storage of medicines;

PC-7 Readiness for transportation of medicines;

PC-8 Readiness for timely detection of falsified, substandard and counterfeit medicines;

PC-9 Readiness to participate in the procedures for the import of medicines into the Russian Federation and the export of medicines from the Russian Federation;

PC-10 Ability to carry out the examination of medicines using chemical, biological, physicochemical and other methods;

PC-11 Ability to participate in examinations provided for in the state registration of medicinal products;

PC-12 Ability to conduct quality control of medicines in the conditions of pharmaceutical organizations;

PC-13 Ability to provide advisory assistance to medical workers and consumers of medicinal products in accordance with the instructions for use of the medicinal product;

PC-14 Readiness to conduct outreach work to promote healthy lifestyles and life safety;

PC-15 Ability to apply the basic principles of management in the pharmaceutical industry, in pharmaceutical organizations and their structural divisions;

PC-16 Ability to participate in organizing the activities of pharmaceutical organizations;

PC-17 Ability to organize quality control of medicines in the conditions of pharmaceutical organizations;

PC-18 Ability to carry out procedures for the withdrawal from civil circulation of counterfeit, substandard and counterfeit medicines and their destruction;

PC-19 Ability to support the activities of pharmaceutical organizations in occupational health and safety;

PC-20 Readiness to participate in the implementation of new methods and techniques in the development, production and circulation of medicines;

PC-21 Ability to analyze and publicly present scientific pharmaceutical information.

PCEU-1 Ability to predict possible mechanisms of biological action of a substance based on its chemical structure;

PCEU-2 Possess a system of knowledge about the mechanism of action of medicinal substances on the animal organism, its individual systems and functions, the relationship between the chemical structure of medicinal products and the nature of their pharmacological action; the ability to successfully act on the basis of knowledge, skills and practical experience in solving problems of professional activity;

PCEU-3 Ability and willingness to assess the ethical aspects of biomedical technologies;

PCEU-4 Able to provide first aid on the territory of a pharmaceutical organization in case of emergencies among visitors and employees of the organization before the arrival of the ambulance team.

### **Funds of evaluation means of final certification**

Appraisal Funds (hereinafter - AF) for final certification are presented in a separate document "Assessment funds funds for state final certification", approved at a meeting of the Academic Council of the Faculty of Chemistry.

The purpose of creating the AF for the state final certification of graduates is a complete assessment of the practical and theoretical preparedness of the graduate to perform the professional tasks established by the SEES.

The tasks of the AF:

- control and management of the process of acquiring the necessary knowledge, abilities, skills and the level of formation of competencies defined in the SEES;
- control and management of the achievement of the goals of the implementation of the educational program;
- ensuring the correspondence of the learning outcomes to the tasks of future professional activity through the improvement of traditional and the introduction of innovative teaching methods in the educational process of the university.

Assessment funds for the state final certification include: a list of situational tasks necessary to assess the results of mastering the educational program in the form of examination tickets.

The program of the state final attestation, including the state exam program, containing a list of questions to be submitted for the state exam, and recommendations for students on preparing for the state exam, including a list of recommended literature for preparing for the state exam, and requirements for final qualifying works and the procedure for their implementation, the criteria for assessing the results of passing state exams and defending final qualifying works are part of the educational program in the specialty and are approved by the Academic Council of the University.

### **State Examination Commission**

The state examination is taken by the State Examination Commission (SEC) in the specialty. The Chairman of the State Electoral Commission is approved from among persons who do not work at PSU, who have a doctorate degree and (or) the academic title of professor, or who are leading specialists - representatives of employers or their associations in the relevant field of professional activity, no later than December 1, preceding the year of the state final certification.

The state examination commission includes the chairman of the said commission and at least 4 members of the said commission. Members of the state examination commission are leading specialists - representatives of employers or their associations in the relevant field of professional activity and (or) persons who belong to the teaching staff of PSU (other organizations) and (or) to researchers of PSU (other organizations) and have academic title and (or) academic degree. The share of persons who are leading specialists - representatives of employers or their associations in the relevant field of professional activity (including the chairman of the state examination commission), in the total number of persons who are members of the state examination commission, must be at least 50 percent.

The work of the SEC is directed by the chairman of the SEC or his deputy (in the absence of the chairman). For the period of the state final certification to ensure the work of the SEC, a secretary of the said commission is appointed from among the persons belonging to the teaching staff, scientific workers or administrative workers of Perm State University. The secretary of the SEC is not part of it. The secretary of the SEC keeps minutes of its meetings, submits the necessary materials to the appeal commission.

The composition of the commission and the secretary of the SEC are approved by the order of the rector no later than December 31 of the previous year of the state final certification, but no later than 1 month before the start date of the state final certification.

The schedule of the commission's work, agreed with the chairman of the SEC, is approved by the rector no later than 30 calendar days before the day of the first state

certification test. The schedule indicates the dates, time and place of state certification tests and pre-examination consultations. The approved schedule is communicated to the students, the chairman and members of state examination commissions and appeal commissions, secretaries of state examination commissions, managers and consultants of final qualifying works.

### **The procedure for organizing and conducting the state exam**

The state exam is the most important type of state final certification of a specialist and is designed to provide an opportunity to establish the level of education, the completeness of knowledge and skills acquired by a graduate in the framework of mastering an educational program; the level of intellectual abilities of a specialist, his creative potential.

According to the State Environmental Management System of PSU, the state final certification in the specialty 33.05.01 "Pharmacy" (in addition to the defense of the final qualification work) is carried out in the form of a state examination, which reveals the theoretical and practical preparation of the graduate to solve professional problems based on the requirements of the SEES.

The state exam precedes the defense of the graduate qualification work of a specialist and is conducted in several disciplines of the educational program, the results of mastering which are of decisive importance for the professional activities of graduates.

The purpose of the state exam is to test the knowledge, abilities, skills and personal competencies acquired by the graduate in the study of academic disciplines of the educational program, in accordance with the requirements of the PSU SEES and indicating the readiness (ability) of students to independently solve the problems of professional activity in standard situations.

The scope of the requirements for the mandatory minimum content and the level of training of a graduate is determined by this program of state final certification in the specialty "Pharmacy", developed on the basis of the current state educational standard of higher professional education, the qualification characteristics of a graduate pharmacist and the PSU SEES.

The program of the state exam in the specialty "Pharmacy" includes a list of questions, on the basis of which certification test tasks, situational educational tasks and a list of practical skills are formed. A graduate must show his ability and skill, relying on the acquired knowledge, skills and formed general cultural, general professional and professional competencies, independently solve the problems of his professional activity at the modern level, professionally present special information, scientifically argue and defend his point of view.

The procedure for conducting the state exam is developed by the teachers of the graduating department and approved by the Academic Council of the faculty. The approval of variants of situational tasks with response standards is carried out at a meeting of the Academic Council of the faculty. Students should be able to familiarize themselves with the structure and typical samples of situational tasks. The program, form and conditions of the SEC are brought to the attention of students no later than 6 months before its start.

Checking the level of mastering knowledge, abilities and skills in solving specific professional problems is carried out during the interview simultaneously in five major disciplines: **1) pharmacology; 2) pharmacognosy; 3) pharmaceutical technology; 4) pharmaceutical chemistry; 5) management and economics of pharmacy.**

The date for passing the state exam is set no later than 30 calendar days before the first state certification test. Variants of exam tickets are kept sealed and issued to students directly on the exam.

Not later than 2 days before the state exam, a consultation is held on the issues included in the state exam program. The schedule of consultations is approved by the rector of the university.

The sequence of passing the state exam by students is determined by the chairman of the SEC. Students with disabilities (who have disabilities in physical and (or) mental

development: hearing impaired, visually impaired, speech impairment, musculoskeletal system and others, including disabled children, people with disabilities), pregnant women should be given the opportunity to pass the state exam as a matter of priority at the request of such a graduate. The presence of unauthorized persons at state exams is allowed only with the permission of the dean of the faculty or the chairman of the state examination committee.

The state exam takes place in the form of a final interview on complex interdisciplinary situational tasks. It checks the professional training of the graduate, i.e. the level of his competence for solving professional situations. The interview is carried out on the basis of solving generalized situational problems - clinical, pharmaceutical, ethical-deontological, analysis of recipes, etc. The assessment in this case is the degree of the graduate's ability to develop and implement optimal solutions to professional problems based on the integration of the content of the disciplines included in the certification test. The number of situational tasks must be at least the number of students taking tests in one examination stream. When preparing for the exam, the student takes notes on the oral answer sheet. At the end of the answer, the oral answer sheet, signed by the student, is handed over to the members of the SEC. No more than one hour is given to prepare to answer the questions of the examination card. During the preparation of graduates for the answer, at least one member of the SEC should be in the audience.

The Commission must ensure a business and calm atmosphere in the classroom during preparation for the answer and hearing the answers of the alumni, and must also ensure the uniformity of the requirements for the students.

In the event that a graduate, after receiving an examination card, has textbooks, methodological materials, educational and other literature (except for those allowed for use in the state exam), abstracts, cheat sheets, regardless of the type of information carrier, as well as any technical means and means of transmitting information, or using a hint, regardless of whether the specified materials and (or) funds were used in preparation for the answer to the state exam, the commission withdraws the specified materials and (or) funds before the end of the state exam, indicating the relevant information in the minutes of the SEC meeting and makes a decision on the assessment of the knowledge of such a graduate "unsatisfactory" or on the continuation of the state exam (hearing the answer to the exam ticket).

The duration of a student's questioning on the state exam should not exceed 30 minutes. During the examination, examiners are given the right to ask the examinees additional questions in accordance with the approved program. When assessing knowledge at the state exam, it is taken into account: the correctness of the answer to the questions, the completeness of the disclosure of the question, the accuracy of the use and interpretation of terms; the formation of the intellectual and scientific abilities of the examinee; independence of the answer; speech literacy and logical sequence of the answer.

The exam results are assessed on a 4-point system: "excellent", "good", "satisfactory", "unsatisfactory".



# DESCRIPTION OF INDICATORS AND CRITERIA FOR EVALUATION OF COMPETENCIES, SCALES OF EVALUATION

## State exam

Competencies	Competency name	Expected results	Criteria for assessing the results of passing the state exam			
			Unsatisfactory	Satisfactory	Good	Excellent
			LEVELS OF FORMATION OF COMPETENCIES			
			COMPETENCE IS NOT FORMED The level of formation is below the threshold	THRESHOLD Competence is formed at a basic level that allows to apply knowledge, skills and abilities in the professional field	THRESHOLD Competence is formed at a level that allows to apply knowledge, skills and abilities in the professional field	ADVANCED Competence is formed at a high level, allowing to apply knowledge, skills and abilities in the professional field
GCC.1	Possess a culture of thinking, the ability to use the foundations of philosophical knowledge to form an ideological position, the ability to perceive, critically evaluate and generalize new knowledge	Knows the main directions, problems, theories and methods of philosophy, the content of modern philosophical discussions on the problems of social development; the state of the modern scientific picture of the world; knows how to use the provisions and categories of philosophy to assess and analyze various social and cultural trends, facts and phenomena; apply the methods and means of philosophical knowledge, analyzing the problems of social, humanitarian and economic processes; owns a philosophical lexical minimum of a general and terminological nature; skills and culture of conceptual and systems thinking; techniques of discussion and polemics	Does not know the main directions, problems, theories and methods of philosophy, the content of modern philosophical discussions on the problems of social development; not aware of the state of the modern scientific picture of the world; is unable to use the provisions and categories of philosophy to assess and analyze various social and cultural trends, facts and phenomena; experiences significant difficulties when trying to apply the methods and means of philosophical knowledge, analyzing the problems of social, humanitarian and economic processes; extremely poorly mastered the philosophical lexical minimum of a general and terminological nature; has poorly expressed skills and culture of conceptual and	Has fragmentary, partially formed ideas about the main directions, problems, theories and methods of philosophy, the content of modern philosophical discussions on the problems of social development; possesses fragmentary information about the state of the modern scientific picture of the world; has significant difficulties in applying the main provisions and categories of philosophy to assess and analyze various social and cultural trends, facts and phenomena; experiences significant difficulties when trying to apply the methods and means of philosophical knowledge, analyzing the problems of social, humanitarian and economic processes; poorly knows the philosophical lexical minimum of a general and terminological na-	Possesses formed, systematic ideas about the main directions, problems, theories and methods of philosophy, the content of modern philosophical discussions on the problems of social development; owns information about the state of the modern scientific picture of the world; has minor difficulties in applying the main provisions and categories of philosophy to assess and analyze various social and cultural trends, facts and phenomena; may experience minor difficulties when trying to apply the methods and means of philosophical knowledge, analyzing the problems of social, humanitarian and economic processes; has sufficient knowledge of the philosophical lexical minimum of a general and terminological nature;	Has a well-formed, systematic knowledge about the main directions, problems, theories and methods of philosophy, the content of modern philosophical discussions on the problems of social development; owns information about the state of the modern scientific picture of the world; freely applies the main provisions and categories of philosophy to assess and analyze various social and cultural trends, facts and phenomena; applies methods and means of philosophical knowledge, analyzing the problems of social, humanitarian and economic processes. Possesses at a high level a philosophical lexical minimum of a general and terminological character; possesses

			systems thinking; is very weak in the techniques of discussion and polemics	ture; has poorly expressed skills and culture of conceptual and systems thinking; has significant difficulty in conducting discussions and polemics	has pronounced skills and culture of conceptual and systems thinking; has minor difficulty in conducting discussions and polemics	pronounced skills and culture of conceptual and systems thinking; freely discusses
GCC.2	Possess communication skills, be able to reasonably and competently build oral and written speech in Russian, the ability to communicate in social and industrial activities	Able to communicate verbally and in writing in Russian	He speaks the norms of the Russian literary language to an extremely weak degree, demonstrates poorly developed skills of the culture of social and business communication in Russian, is not able to logically correctly, clearly and reasonably build oral and written speech, texts of professional th character contain gross stylistic errors	Allows significant errors in mastering the norms of the Russian literary language, demonstrates poorly developed skills of the culture of social and business communication in Russian, experiences significant difficulties and allows stylistic errors in the compilation of professional texts	Allows minor errors in the knowledge of the norms of the Russian literary language, demonstrates sufficiently developed skills of the culture of social and business communication in Russian; may allow minor stylistic errors when compiling professional texts	She has a high level of knowledge of the norms of the Russian literary language, demonstrates developed skills in the culture of social and business communication in Russian, and compiles competent professional texts.
GCC.4	Critically analyze and evaluate your professional and social experience, if necessary, the readiness to change the profile of your professional activity, to demonstrate a readiness for self-development and self-improvement, professional development and skill improvement	Is able to reflect on his own professional and social experience	Possesses weak, practically not formed knowledge of the basic methods of social sciences, which make it possible to assess compliance with the chosen profile of professional activity; does not possess the skills of introspection; practically unable to analyze and critically assess professional activity, as well as predict its development; does not know how to find sufficient motivation to improve the professional level and self-development	Possesses fragmentary, partially formed knowledge of the main methods of social sciences, which leads to errors in assessing the degree of its compliance with the chosen profile of professional activity; not always capable of adequate introspection; does not always adequately analyze and critically assess his professional activity, is not capable of predicting its development; hardly finds sufficient motivation to improve professional level and self-development	Has a well-formed knowledge of basic methods of social sciences with minor gaps; adequately assesses its degree of compliance with the chosen profile of professional activity; adequately analyzes and critically evaluates his professional activity, is able to predict its development; sometimes finds it difficult to find the motivation necessary for professional development and self-development	Possesses formed, systematic knowledge of the basic methods of social sciences; adequately assesses its degree of compliance with the chosen profile of professional activity; adequately analyzes and critically evaluates his professional activity, is able to predict its development; highly motivated, constantly increases the level of his professional development and self-development
GCC.5	Ability to apply legal and ethical norms in their pro-	Knows the fundamental concepts of legal dogma, is able to recognize the type and legal force of a	Cannot formulate signs sufficient to determine the main legal phenomena-	Formulates signs sufficient to determine the main legal phenomena, is	gives adequate legal definitions, knows the hierarchy of normative and	gives adequate doctrinal and legal definitions, knows some scientific

	professional activities and assess its consequences, to know their rights and the ability to take a civil position	legal act	na, is not able to determine the type of legal act, is not able to determine the place of a regulatory act in the hierarchy	able to distinguish a normative act from an individual one by details and addressee, determines the subject of rights and obligations	legal acts, knows the formal and substantive requirements for law enforcement acts	approaches, confidently determines the type and legal force of a legal act by its content, assesses a legal act from the standpoint of ensuring civil rights and freedoms
GCC.7	Know and respect the historical heritage and cultural traditions of your country, tolerate social, ethnic, confessional and cultural differences, the ability to analyze the main stages and patterns of the historical development of society	Knows the main stages and patterns of the historical development of his country, the characteristics of the behavior of various national-ethnic, social-class groups, the infrastructure for ensuring the social well-being of citizens; Knows how to take into account in the process of carrying out professional activities the peculiarities of national cultural development, social status of citizens; Evaluates social information from different points of view; Analyzes the specifics of the sociocultural space	Has poorly formed, fragmentary ideas about the main stages and patterns of the historical development of his country, does not know and does not take into account the peculiarities of the behavior of various national-ethnic, social-class groups, confessional groups in various situations, the infrastructure for ensuring the social well-being of citizens; has significant difficulties in analyzing the socio-cultural space, is not able to evaluate social information from different points of view	Has fragmentary, partially formed ideas about the main stages and patterns of the historical development of his country, does not always take into account the characteristics of the behavior of various national-ethnic, social-class groups, confessional groups in various situations, the infrastructure for ensuring the social well-being of citizens; has difficulty in analyzing the sociocultural space, has difficulty in assessing social information from different points of view	Has formed, with minor gaps in knowledge about the main stages and patterns of the historical development of his country, in most cases, takes into account the characteristics of the behavior of various national-ethnic, social-class, confessional groups in various situations, the infrastructure for ensuring the social well-being of citizens; has minor difficulties in analyzing the sociocultural space, has slight difficulties in assessing social information from different points of view	Has a formed, deep, systematic knowledge about the main stages and patterns of the historical development of his country, takes into account the characteristics of the behavior of various national-ethnic, social-class groups, confessional groups in various situations, the infrastructure for ensuring the social well-being of citizens; accurately analyzes the sociocultural space, evaluates social information from different points of view
GCC.8	Master the basic vocabulary and grammar of one of the foreign languages, the basics of colloquial speech; the ability to read texts on general educational and professional topics, to convey their content in Russian and foreign languages	Knows the vocabulary, phonetic and grammar rules of a foreign language, necessary for the formation of communicative competence. Knows how to apply lexical, phonetic and grammatical skills in everyday and professional communication. Possesses the skills of reading, speaking, listening and writing in everyday communication.	Has poorly formed, fragmentary knowledge of vocabulary, phonetic and grammar rules of a foreign language, is not able to apply lexical, phonetic and grammatical skills in everyday and professional communication, has poor reading and listening skills, is not able to compose a text related to professional activity, in a foreign language	Has fragmentary knowledge of vocabulary, phonetic and grammar rules of a foreign language, has difficulty using lexical, phonetic and grammatical skills in everyday life and professional communication, makes mistakes in reading, listening, has significant difficulties in compiling professional texts in a foreign language	Has a well-formed knowledge of vocabulary, phonetic and grammar rules of a foreign language, has minor difficulties in using lexical, phonetic and grammatical skills in everyday and professional communication, makes minor errors in reading, listening, has minor difficulties in composing professional texts in a foreign language	Has a well-formed, deep, systematic knowledge of vocabulary, phonetics and grammar rules of a foreign language, freely uses these skills in everyday and professional communication, reads fluently, audits, composes competent professional texts in a foreign language

GCC.11	Readiness to use the main methods of protecting production personnel and the population from the possible consequences of accidents, catastrophes, natural disasters	Knows the types of dangers that can harm a person, methods of protecting the population from their possible consequences. Knows how to assess the level of possible consequences of accidents, catastrophes, natural disasters. Owns methods of protecting production personnel and the population from the possible consequences of accidents, catastrophes, natural disasters	Has poorly formed, fragmentary ideas about the types of dangers that can harm a person, methods of protecting the population from their possible consequences; cannot assess the level of possible consequences of accidents, catastrophes, natural disasters; does not have information on the methods and methods of protecting production personnel and the population from the possible consequences of accidents, catastrophes, natural disasters	Has poorly formed, fragmentary ideas about the types of dangers that can harm a person, methods of protecting the population from their possible consequences; does not always adequately assess the level of possible consequences of accidents, catastrophes, natural disasters; partially owns information on the methods and methods of protecting production personnel and the population from the possible consequences of accidents, catastrophes, natural disasters	Has formed, with insignificant gaps, ideas about the types of hazards that can harm a person, methods of protecting the population from their possible consequences; adequately assesses the level of possible consequences of accidents, catastrophes, natural disasters; partially owns information on the methods and methods of protecting production personnel and the population from the possible consequences of accidents, catastrophes, natural disasters	Has formed, systematic knowledge about the types of hazards that can harm a person, methods of protecting the population from their possible consequences; adequately assesses the level of possible consequences of accidents, catastrophes, natural disasters; possesses information from the main and additional sources on the methods and methods of protecting production personnel and the population from the possible consequences of accidents, catastrophes, natural disasters
GCC.12	Understand and strive to comply with the norms of a healthy lifestyle, own the means of independent use of methods of physical education and health promotion	Ability to use methods and means of physical culture to ensure full-fledged social and professional activity	Disregards the observance of the norms of a healthy lifestyle, has poorly formed ideas about the methods of proper physical education and health promotion with the help of physical exercises; does not use physical education to maintain health and performance; not capable of demonstrating the skills of using physical culture practices in their own social and professional activities	In a number of cases, he neglects the observance of the norms of a healthy lifestyle, has fragmentary ideas about the methods of proper physical education and health promotion with the help of physical exercises; does not use physical education to maintain health and performance; partially capable of demonstrating the skills of using physical culture practices in their own social and professional activities	Most of them comply with the norms of a healthy lifestyle, know about the methods of proper physical education and health promotion through physical exercise; in most cases uses physical education to maintain health and performance; has minor difficulties in demonstrating the skills of using physical culture practices in their own social and professional activities	Observes the norms of a healthy lifestyle, knows about the methods of proper physical education and health promotion through exercise; Regularly uses physical education to maintain health and performance; Easily demonstrates the skills of using physical culture practices in their own social and professional activities
GCC.13	Have a basic understanding of the foundations of psychology, be able to build interpersonal relationships	Able to apply knowledge about the laws of the functioning of the psyche in his own activities and in building social interactions.	Has fragmentary, poorly formed knowledge of the basic provisions and methods of the psychology of personal self-development, is not able	Has fragmentary, poorly formed knowledge about the basic principles and methods of the psychology of personal self-development, does not	Has formed, having minor gaps in knowledge of the basic provisions and methods of psychology of personal self-development, in most	Has a formed, deep, systematic knowledge of the basic provisions and methods of the psychology of personal self-development, cor-

			to analyze situations of interpersonal communication, cannot correct his behavior depending on the situation, has great difficulties in building interpersonal relationships	always adequately analyze situations of interpersonal communication, cannot always correct his behavior depending on the situation, hardly builds interpersonal relationships	cases adequately analyze situations of interpersonal communication, corrects his behavior depending on the situation, may experience minor difficulties in building interpersonal relationships	rectly and adequately analyzes situations of interpersonal communication, corrects his behavior depending on the situation, freely and easily builds interpersonal relationships
GCC.14	Have an understanding of the systems approach in natural sciences, demonstrate a systematic understanding of the professional field	Knows the patterns of correspondence between the physical properties of molecules of organic compounds and their chemical behavior, be able to predict changes in the physical and chemical properties of organic compounds, depending on their structure, own the methods of describing the chemical properties of organic molecules	Has no idea about the relationship between the physical properties (abnormally high boiling points of alcohols and their structure) and the chemical behavior of alcohols. phenols and ethers, cannot trace the systemic bond of alcohols, phenols and ethers	He has only a superficial idea of the relationship between the physical properties of alcohols and their structure, cannot fully describe the chemical properties of alcohols, phenols and ethers, can partially trace the systemic bond of alcohols. phenols and ethers	Has an idea of the relationship between the physical properties of alcohols and their structure, can describe in full the chemical properties of alcohols, phenols, but finds it difficult to describe the properties of ethers. can partially trace the systemic connection of alcohols. phenols and ethers	Has an idea of the relationship between the physical properties of alcohols and their structure, can describe in full the chemical properties of alcohols, phenols and ethers. Can trace the systemic bond of alcohols, phenols and ethers
GCC.15	Possess knowledge of the basics of economics in solving social and professional problems	Knows the basics of economics, knows how to use the basics of economic knowledge in various fields of professional activity; owns the ideology of civilized economic behavior	Doesn't know the essence of basic economic categories; does not possess information about the state and development trends of the country's economy; does not know how to develop feasibility studies for innovative projects	Has fragmentary, partially formed knowledge about the essence of basic economic categories; owns partial information about the state and development trends of the country's economy; unable to independently develop feasibility studies for innovative projects	Has formed, having minor gaps in knowledge about the essence of basic economic categories; basically owns information about the state and development trends of the country's economy; finds it difficult to develop feasibility studies for innovative projects	Has a formed, systematic knowledge of basic economic categories; owns publicly available information about the state and development trends of the country's economy; relying on additional sources of information, is able to independently develop feasibility studies for innovative projects
GPC.1	Know basic theories, teachings and concepts in the professional field	Able to use in solving problems of professional activity an understanding of the theoretical foundations of special and interdisciplinary sections of chemistry, physics, anatomy, biology, botany	Knowledge of the content of special and interdisciplinary sections of chemistry, physics, anatomy, biology, botany does not meet the requirements for a graduate; unable to apply knowledge of the theo-	Has fragmentary, partially formed knowledge of the content of special and interdisciplinary sections of chemistry, physics, anatomy, biology, botany; finds it difficult to use the knowledge of the theoretical foundations	Has a well-formed knowledge of the content of special and interdisciplinary sections of chemistry, physics, anatomy, biology, botany; has minor difficulties in using knowledge of the theoretical foundations of	Has a formed, deep, systematic knowledge of the content of special and interdisciplinary sections of chemistry, physics, anatomy, biology, botany; freely uses the knowledge of the theoretical founda-

			retical foundations of special and interdisciplinary sections of chemistry, physics, anatomy, biology, botany in solving typical problems; does not have the skills to use special and interdisciplinary sections of chemistry, physics, anatomy, biology, botany in solving professional problems	of special and interdisciplinary sections of chemistry, physics, anatomy, biology, botany to solve typical problems, makes significant mistakes when solving problems; to a weak degree can apply knowledge of special and interdisciplinary sections of chemistry, physics, anatomy, biology, botany, necessary for solving professional problems	special and interdisciplinary sections of chemistry, physics, anatomy, biology, botany, makes unprincipled, easily removable errors when solving typical problems; in general, he successfully applies knowledge of special and interdisciplinary sections of chemistry, physics, anatomy, biology, botany to solve professional problems	tions of special and interdisciplinary sections of chemistry, physics, anatomy, biology, botany in solving typical problems; freely solves professional problems requiring the application of knowledge of special and interdisciplinary sections of chemistry, physics, anatomy, biology, botany for solving professional problems
GPC.5	Have basic knowledge of the modern scientific picture of the world based on the provisions, laws and methods of natural sciences	possesses basic knowledge of the modern scientific picture of the world based on the provisions, laws and methods of chemistry, physics, anatomy, biology, botany, ecology	Possesses poorly formed, fragmentary knowledge about the modern scientific picture of the world based on the provisions, laws and methods of chemistry, physics, anatomy, biology, botany, ecology; does not know the terminology; unable to apply the basic provisions, laws and methods of chemistry, physics, anatomy, biology, botany, ecology to <i>describe natural phenomena</i>	Possesses fragmentary knowledge about the modern scientific picture of the world based on the provisions, laws and methods of chemistry, physics, anatomy, biology, botany, ecology; has difficulty using a particular term; finds it difficult to describe natural phenomena based on the provisions, laws and methods of chemistry, physics, anatomy, biology, botany, ecology	Demonstrates Possesses formed, having small gaps in knowledge about the modern scientific picture of the world based on the provisions, laws and methods of chemistry, physics, anatomy, biology, botany, ecology; has sufficient knowledge of terminology; may experience minor difficulties in applying the basic provisions, laws and methods of chemistry, physics, anatomy, biology, botany, ecology to <i>describe natural phenomena</i>	Has a formed, deep, systematic knowledge of the content of special and interdisciplinary sections of chemistry, physics, anatomy, biology, botany, ecology; freely uses the knowledge of the theoretical foundations of special and interdisciplinary sections of chemistry, physics, anatomy, biology, botany, ecology when solving typical problems; freely solves professional problems requiring the application of knowledge of special and interdisciplinary sections of chemistry, physics, anatomy, biology, botany, ecology for solving professional problems

GPC.10	Readiness to maintain the documentation provided for in the production and circulation of medicines	Knows the regulatory legal documents governing the activities of pharmaceutical organizations. Knows how, in accordance with regulatory documents, to conduct pharmaceutical activities. Has the skills to work in accordance with the requirements of regulatory legal acts	Does not know the normative legal documents governing the activities of pharmaceutical organizations. Does not know how, in accordance with the regulatory documents, to conduct pharmaceutical activities. Practically does not have the skills to work in accordance with the requirements of regulatory legal acts	Does not fully know the regulatory legal documents governing the activities of pharmaceutical organizations. Poorly able, in accordance with regulatory documents, to conduct pharmaceutical activities. Has the skills to work in accordance with the requirements of regulatory legal acts. But makes significant mistakes	Knows the regulatory legal documents governing the activities of pharmaceutical organizations. Knows how, in accordance with regulatory documents, to conduct pharmaceutical activities. Has the skills to work in accordance with the requirements of regulatory legal acts, making minor mistakes	activities of pharmaceutical organizations. He confidently knows how, in accordance with the regulatory documents, to conduct pharmaceutical activities. Has excellent skills in working in accordance with the requirements of regulatory legal acts
GPC.12	The ability to assess morphofunctional, physiological conditions and pathological processes in the human body for solving professional problems	Knows the morpho-functional organization of the human body and the physiological foundations of its life, the main ways of regulating the function of the physiological systems of the body, the principles of interaction of the human body with the external environment and the mechanisms of functioning of sensory systems. Knows how to assess the main functional indicators of a healthy person.	Not able to assess the basic functional indicators of a healthy person. Not able to assess pathological processes in the human body	Able to assess the main functional indicators of a healthy person. Cannot statistically process experimental data. Able to assess pathological processes in the human body, does not have information on the prevention or elimination of the disease	Able to assess the main functional indicators of a healthy person, makes minor errors in the statistical processing of experimental data. Able to assess pathological processes in the human body, does not fully possess information on the prevention or elimination of the disease	Confidently evaluates the main functional indicators of a healthy person's vital functions, performs excellent statistical processing of experimental data. Confidently evaluates pathological processes in the human body
GPC.13	Readiness for the use of specialized equipment and medical devices intended for use in the professional field	Knows the range and classification of specialized equipment and medical devices. Knows how to apply them in practice. Possesses the methods and techniques of using specialized equipment and medical devices intended for use in the professional field	Doesn't know the nomenclature and classification of specialized equipment and medical devices. Does not know the methods and techniques of using specialized equipment and medical devices intended for use in the professional field	Little knowledge of the nomenclature and classification of specialized equipment and medical devices. Not fully able to apply them in practice. Makes mistakes when using specialized equipment and medical devices intended for use in the professional field	Knows the range and classification of specialized equipment and medical devices, knows how to apply them in practice. Makes minor mistakes when using specialized equipment and medical devices intended for use in the professional field	He has an excellent knowledge of the range and classification of specialized equipment and medical devices, and he confidently knows how to apply them in practice. Applies error-free specialized equipment and medical devices intended for use in the professional field
GPC.14	Willingness to use first aid techniques	Knows the theoretical foundations of first aid techniques. Knows how to apply knowledge in prac-	Does not know the theoretical foundations of first aid techniques Does	Little knowledge of the theoretical foundations of first aid techniques	Knows the theoretical foundations of first aid techniques Is able to ap-	Knows the theoretical foundations of first aid techniques Knows how

		tice. Knows the techniques and methods of first aid.	not know how to apply knowledge in practice Does not know the techniques and methods of first aid	Applies knowledge in practice with errors Not fully masters the techniques and methods of first aid	ply knowledge in practice Knows the techniques and methods of first aid, making minor mistakes	to apply knowledge in practice Skills techniques Confidently owns first aid methods
GPC.15	Ability and willingness to implement ethical and deontological principles in professional activities	Knows aspects of integrative interactions with the medical staff of the department and employees of other departments of the clinic, the basic principles of biomedical ethics. Knows how to comply with the basic principles of bioethics in relation to medical and nursing staff. Has the skills of integrative interactions with the medical staff of the department and employees of other departments of the clinic.	Does not know the aspects of integrative interactions with the medical staff of the department and employees of other departments of the clinic, the basic principles of biomedical ethics, does not know how to comply with the basic principles of bioethics in relation to physicians and nurses. Does not possess the skills of integrative interactions with medical personnel	Poorly knows the aspects of integrative interactions with the medical staff of the department and employees of other departments of the clinic, the basic principles of biomedical ethics. Does not fully comply with the basic principles of bioethics in relation to medical and nursing staff. Have the skills of integrative interactions with medical personnel, but makes gross mistakes	Knows aspects of integrative interactions with the medical staff of the department and employees of other departments of the clinic, the basic principles of biomedical ethics. Knows how to comply with the basic principles of bioethics in relation to medical and nursing staff. Possesses the skills of integrative interactions with medical personnel, making minor mistakes	He is well aware of the aspects of integrative interactions with the medical staff of the department and employees of other departments of the clinic, the basic principles of biomedical ethics. Confidently complies with the basic principles of bioethics in relation to medical and nursing staff. Possesses the skills of integrative interactions with medical personnel
GPC.16	Possess knowledge of the basics of grammar of the Latin language and the ability to read Latin texts with a dictionary	Knows the rules for reading Latin vowels and consonants, quantitative and ordinal numbers from one to ten, rules for using numerals in a text, examples of sentences with three syntactic phrases of the Latin language, rules for reading Latin texts, the composition of the dictionary forms of verbs, nouns, adjectives, prepositions, especially Latin phonetics. Knows how to explain the place of stress in polysyllabic Latin words, write three-digit numbers in Roman numerals. Possesses the skills of correct staging of stress, reading Latin numerals and translating sentences with syntactic phrases, skills of translating Latin texts, skills of writing dictionary forms of a verb, name, preposition, skills of translating pharmaceutical texts	Ignorance of the rules for reading Latin vowels and consonants, quantitative and ordinal numbers from one to ten, rules for the use of numbers in the text, examples of sentences with three syntactic phrases of the Latin language, rules for reading Latin texts, the composition of the dictionary forms of verbs, nouns, adjectives, prepositions, features of Latin phonetics, inability to explain the place of stress in Latin polysyllabic words, to write down three-digit numbers in Roman numerals, does not have the skills to correctly formu-	Poor knowledge of the rules for reading Latin vowels and consonants, quantitative and ordinal numbers from one to ten, rules for the use of numbers in the text, examples of sentences from sentences with three syntactic turns of the Latin language, rules for reading Latin texts, the composition of the dictionary forms of verbs, nouns, adjectives, prepositions, features of Latin phonetics. Uncertainty in explaining the place of stress in polysyllabic Latin words, writing down three-digit numerals in Roman numerals, mistakes in the skills of	Knowledge of the rules for reading Latin vowels and consonants, quantitative and ordinal numbers from one to ten, rules for the use of numbers in the text, examples of sentences with three syntactic phrases of the Latin language, rules for reading Latin texts, the composition of the dictionary forms of verbs, nouns, adjectives, prepositions, features of Latin phonetics. The ability to explain the place of stress in polysyllabic Latin words, to write down three-digit numbers in Roman numerals, has the skills to correctly place stress,	Excellent knowledge of the rules for reading Latin vowels and consonants, quantitative and ordinal numbers from one to ten, rules for the use of numbers in the text, examples of sentences with three syntactic phrases of the Latin language, rules for reading Latin texts, the composition of the dictionary forms of verbs, nouns, adjectives, prepositions, features of Latin phonetics, the ability to explain the place of stress in Latin polysyllabic words, write down three-digit num-



			late stress, read Latin numbers and translate sentences with syntactic turns, skills in translating Latin texts, skills in writing the dictionary forms of a verb, name, preposition , pharmaceutical translation skills	correct stressing, reading Latin numbers and translating sentences with syntactic phrases, skills in translating Latin texts, skills in writing vocabulary forms of a verb, name, preposition, skills translation of pharmaceutical texts	read Latin numbers and translate sentences with syntactic phrases, skills in translating Latin texts, skills in writing the dictionary forms of a verb, name, preposition, skills in translating pharmaceutical texts ,	bers in Roman numerals, Confident possession of the skills of correct stressing, reading Latin numbers and translating sentences with syntactic turns, the skills of translating Latin texts, the skills of writing vocabulary forms of a verb, name, preposition, pharmaceutical translation skills
PC.1	ability to ensure quality control of medicines in the conditions of pharmaceutical organizations	Knows the theoretical and practical aspects of organizing quality control of medicines; knows how to organize the process of quality control of medicines in the conditions of pharmaceutical organizations; owns types of quality control of medicines	unsystematic knowledge, fragmentary, lack of understanding of the basics of ensuring quality control of medicines in the conditions of pharmaceutical organizations	difficulties in understanding the basics of ensuring quality control of medicines in the conditions of pharmaceutical organizations	knowledge and understanding of the basics of ensuring quality control of medicines in the conditions of pharmaceutical organizations with some inaccuracies	comprehensive in-depth knowledge in the field of quality control of medicines in the conditions of pharmaceutical organizations
PC.2	the ability to conduct examinations provided for in the state registration of medicinal products	Knows the rules and legislative regulation of examinations during the state registration of medicinal products; knows how to use legal, legislative and administrative provisions regarding the issues of conducting examinations during the state registration of medicinal products; possesses the skills of using modern resources of information support for the pharmaceutical business	non-systematic knowledge, fragmentary, difficulties in understanding the structure of examinations provided for the state registration of medicinal products	basic knowledge, difficulties in understanding the structure of examinations provided for during the state registration of medicinal products	complete knowledge in understanding the structure of examinations provided for the state registration of medicinal products, difficulties in the practical application of knowledge	comprehensive in-depth knowledge of the organizational foundations and practical approaches in carrying out the examinations provided for in the state registration of medicinal products
PC.3	the ability to carry out technological processes in the production and manufacture of medicines	Knows the basics and principles of technological processes used in the production and manufacture of medicines; knows how to make a given dosage form in the laboratory; possesses the skills of implementation of technological processes in the production and manufacture of medicines.	Not able to manufacture the prescribed dosage form in the laboratory.	Capable of making a predetermined dosage form in the laboratory with errors	Able to manufacture a given dosage form in laboratory conditions, but the conditions of the technological process are not fully met	Able to manufacture a given dosage form in laboratory conditions, the conditions of the technological process are fully met.
PC.4	readiness to sell medicinal products	Knows the regulatory and legal documentation governing the op-	Does not know the rules of wholesale trade, the	Allows significant errors in the sale of medicines	Allows minor errors in the sale of medicines in	Able to fully carry out the sale of medicines in

	in accordance with the rules of wholesale trade, the procedure for retail sale and the procedure for transferring medicinal products established by law	eration of a wholesale organization, as well as pharmacies for dispensing medicines and other pharmaceutical goods to the population and medical organizations; knows how to sell medicines and other goods of the pharmacy range; owns the normative and legal documentation governing the operation of a pharmacy for the dispensing of medicines and other pharmaceutical goods to the population and medical organizations, the rules for the wholesale trade of medicines; skills in the sale of medicines in accordance with the rules of wholesale trade, the procedure for retail sale and the procedure for the transfer of medicines established by law	procedure for retail sale and the procedures for the transfer of medicines established by law	in accordance with the rules of wholesale trade, the procedure for retail sale and the procedure for the transfer of medicines established by law	accordance with the rules of wholesale trade, the procedure for retail sale and the procedure for the transfer of medicines established by law	accordance with the rules of wholesale trade, the procedure for retail sale and the procedure for the transfer of medicines established by law
PC.5	the ability to organize the procurement of medicinal plant raw materials, taking into account the rational use of resources of medicinal plants	Knows the theoretical and practical aspects of organizing the procurement of medicinal plant raw materials, taking into account the pharmacognostic characteristics of this type of raw material, the growing area, the collection time of the active ingredients contained in the raw material, in accordance with the current regulatory documentation; is able to carry out rational procurement of medicinal plant materials in accordance with the requirements of the relevant pharmacopoeial monographs; possesses the skills of collecting medicinal plant materials, taking into account the rational use of medicinal plant resources.	Not able to carry out the procurement of medicinal plant raw materials, does not know about the rational use of resources of medicinal plants	Able to carry out the procurement of medicinal raw materials, but not rationally from the point of view of using the resources of medicinal plants	Able to carry out the procurement of medicinal raw materials, but the approach to procurement is not rational enough from the point of view of using the resources of medicinal plants.	able to procure medicinal plant materials, taking into account the principles of rational use of medicinal plant resources
PC.6	readiness to ensure storage of medicines	Knows the theoretical foundations and legislative regulation of the procedure for storing various groups of goods in the pharmacy range, knows how to distribute	unsystematic knowledge, fragmentary, difficulties in understanding the basics of the storage procedure for various groups	knows the basic provisions of the storage procedure for various groups of goods in the pharmacy range	allows minor errors in the use of the basic provisions of the storage procedure for various groups of goods in the	comprehensive in-depth knowledge of the storage of medicines

		incoming products in the retail and wholesale link to storage locations, draw up documentation of the established sample for storing medicines in a pharmacy; owns the skills of organizing the storage of various groups of medicines.	of goods in the pharmacy range		pharmacy range, it is difficult	
PC.7	readiness to carry out transportation of medicines	Knows the theoretical foundations and legislative regulation of the procedure for the transportation of various groups of goods in the pharmacy range, knows how to draw up documentation of the established sample for the transportation of medicines, owns the regulatory and legal documentation that regulates the procedure for the transportation of various groups of medicines.	unsystematic, fragmentary knowledge, difficulties in understanding the basics of the order of transportation of various groups of goods in the pharmacy range	knows the basic provisions of the procedure for the transportation of various groups of goods in the pharmacy assortment	allows minor errors in the use of the basic provisions of the procedure for the transportation of various groups of goods in the pharmacy range, it is difficult	comprehensive in-depth knowledge of the transportation of medicines
PC.8	readiness to timely identify falsified, substandard and counterfeit medicines	Knows the definition of counterfeit, substandard and counterfeit drugs in accordance with the Federal Law "On the Circulation of Medicines", regulatory documents for the destruction of drugs; is able to explain the general procedure for carrying out the procedure for the seizure and destruction of falsified, substandard and counterfeit drugs; possesses the skills of working with regulatory documents on the procedure for identifying falsified, substandard and counterfeit medicines, their seizure and destruction.	Does not know the procedure for identifying counterfeit, substandard and counterfeit medicines, their seizure and destruction	Allows significant errors in the application of knowledge and skills in the field of identification and withdrawal from circulation of counterfeit, substandard and counterfeit medicines	allows minor errors in the application of knowledge and skills in the field of identification and withdrawal from circulation of counterfeit, substandard and counterfeit medicines	comprehensive systematic knowledge in the field of detection and withdrawal from circulation of counterfeit, substandard and counterfeit medicines
PC.9	readiness to participate in the procedures for the import of medicines into the Russian Federation and the export of medicines from the Russian Federation	Knows the theoretical foundations and legislative regulation of the procedure for the import into the Russian Federation and export from the Russian Federation of various groups of drugs; knows how to use legal, legislative and administrative provisions concerning the issues of import into	does not know the aspects of the procedure for importing medicines into the Russian Federation and exporting medicines from the Russian Federation	Allows significant errors in matters of participation in the procedures for the import of medicines into the Russian Federation and the export of medicines from the Russian Federation	allows minor errors in matters of participation in the procedures for the import of medicines into the Russian Federation and the export of medicines from the Russian Federation	comprehensive in-depth knowledge of the procedures for importing medicines into the Russian Federation and exporting medicines from the Russian Federation informational reasoned

		the Russian Federation and export from the Russian Federation of various groups of medicines; owns the normative and legal documentation governing the procedure for the import into the Russian Federation and export from the Russian Federation of various groups of medicines; the skills of organizing the import into the Russian Federation and export from the Russian Federation of various groups of medicines.				
PC.10	the ability to carry out the examination of medicines using chemical, biological, physicochemical and other methods	Knows the theoretical and regulatory framework for the examination of medicines using chemical, biological, physicochemical and other methods; knows how to carry out the examination of medicines using chemical, biological, physicochemical and other methods; possesses the skills of carrying out the examination of medicines using chemical, biological, physicochemical and other methods.	Difficulties in understanding the organizational foundations and practical technologies for the examination of medicines using chemical, biological, physicochemical and other methods	knowledge of the main provisions of the organizational foundations and practical technologies for the examination of medicines using chemical, biological, physicochemical and other methods	full knowledge of the organizational foundations and practical technologies for the examination of medicines using chemical, biological, physicochemical and other methods with minor inaccuracies	comprehensive in-depth knowledge of the organizational foundations of the examination of medicines using chemical, biological, physicochemical and other methods and practical
PC.11	the ability to participate in the examinations provided for the state registration of medicinal products	Knows the general rules for the examination of medicinal products provided for in the state registration; knows how to carry out the examination of medicines; possesses the skills of using methods of analysis to conduct an examination during the state registration of medicines	The student is not able to carry out the examination of medicines	The student is able to carry out the examination of medicines with errors	The student is able to carry out the examination of medicines with inaccuracies that are eliminated on their own	The student is able to carry out the examination of medicines without errors
PC.12	ability to conduct quality control of medicines in the conditions of pharmaceutical organizations	Knows the principles of quality control of medicinal products at the stage of development, manufacture, distribution, transportation, storage and consumption in accordance with regulatory and technical documentation; is able to carry out quality control of medicines in the conditions of pharmaceutical organizations in ac-	not able to control the quality of medicines in the conditions of pharmaceutical organizations	allows significant errors in the quality control of medicines in the conditions of pharmaceutical organizations	allows minor errors in the quality control of medicines in the conditions of pharmaceutical organizations	all-round ability to freely perform actions to control the quality of medicines in the conditions of pharmaceutical organizations

		cordance with regulatory requirements, orders and instructions; possesses the skills of quality control of medicines in the conditions of pharmaceutical organizations.				
PC.13	the ability to provide advice to medical workers and consumers of medicinal products in accordance with the instructions for use of the medicinal product	Knows the main regulatory and legal documents in the field of drug circulation; the basics of organizing pharmaceutical care (outpatient and inpatient) to various groups of the population; the procedure for dispensing medicines from the pharmacy to the population and medical organizations; knows how to inform the population, medical and pharmaceutical workers about medicines, their analogues and substitutes; owns ways to determine the information needs of drug consumers	Difficulties in providing advice to medical workers and drug users in accordance with the instructions for use	Poor knowledge of medicinal products and data included in the instructions for use, significant difficulties in theoretical issues	minor errors in providing advice to medical workers and consumers of medicinal products in accordance with the instructions for use of the medicinal product	Comprehensive in-depth knowledge of advice to healthcare professionals and drug users
PC.14	readiness to conduct outreach work to promote healthy lifestyles and life safety	Knows the basics of the legislation of the Russian Federation on protecting the health of citizens and ensuring sanitary and epidemiological well-being in the country; basic regulatory and legal documents in the field of medicines circulation; is able to carry out certification of workplaces, briefing on labor protection and safety precautions for pharmaceutical workers and auxiliary personnel, measures to prevent environmental violations; to carry out informational, educational and sanitary-educational work; owns ways to determine the information needs of drug consumers, provide information and consulting services	Not able to conduct outreach work to promote healthy lifestyles and life safety	Significant errors in addressing issues of information and educational work to promote a healthy lifestyle and life safety	minor errors in addressing issues of information and educational work to promote a healthy lifestyle and life safety	Comprehensive readiness to conduct outreach work to promote healthy lifestyles and life safety
PC.15	the ability to apply the basic principles of management in	Knows the basic principles of management in the pharmaceutical industry, business processes in	unsystematic, fragmentary knowledge of management in pharmaceuti-	Significant errors in the application of the basic principles of manage-	Minor errors in the application of basic management principles in the	Comprehensive in-depth knowledge of pharmaceutical man-

	the pharmaceutical industry, in pharmaceutical organizations and their structural divisions	pharmaceutical organizations; knows how to apply the basic management methods typical for the pharmaceutical industry, optimize business processes in pharmaceutical organizations; owns - the skills of managing a pharmaceutical organization, the skills of optimizing the business processes of a pharmaceutical organization.	cal organizations, significant difficulties in theoretical issues related to the issues of basic management principles in the pharmaceutical industry, in pharmaceutical organizations and their structural divisions	ment in the pharmaceutical industry, in pharmaceutical organizations and their structural divisions	pharmaceutical industry, in pharmaceutical organizations and their structural units	agement. The answer is well-grounded, well-reasoned.
PC.16	ability to participate in organizing the activities of pharmaceutical organizations	Knows the main regulatory and legal documents in the field of drug circulation; methods of selection, placement and accounting for the movement of personnel; fundamentals of labor collective management; fundamentals of office work in pharmaceutical organizations; knows how to manage the personnel of a pharmacy enterprise, to implement an effective personnel policy using motivational attitudes; determine the demand and need for various groups of pharmaceutical products; owns the technique of organizing work in the main links of the distribution system of the pharmaceutical market; normative, reference and scientific literature for solving professional pharmaceutical problems	Not able to participate in organizing the activities of pharmaceutical organizations	Significant errors in knowledge of the main regulatory and legal documents in the field of drug circulation, placement and accounting of personnel movements are not justified; difficulties in determining the demand and needs for various groups of pharmaceutical products	Minor errors in knowledge of the main regulatory and legal documents in the field of drug circulation, placement and accounting of personnel movements are justified; minor difficulties in determining the demand and needs for various groups of pharmaceutical products	Comprehensive in-depth knowledge of the organization of the activities of pharmaceutical organizations.
PC.17	ability to organize quality control of medicines in the conditions of pharmaceutical organizations	Knows the principles of organizing quality control of medicinal products at the stage of development, manufacture, distribution, transportation, storage and consumption in accordance with regulatory and technical documentation; knows how to organize a quality control system for medicines in pharmaceutical organizations in accordance with regulatory requirements, orders and in-	unable to organize quality control of medicines in the conditions of pharmaceutical organizations	allows significant errors in the organization of quality control of medicines in the conditions of pharmaceutical organizations	allows minor errors in the organization of quality control of medicines in the conditions of pharmaceutical organizations	all-round ability to freely carry out the actions of the organization for the quality control of medicines in the conditions of pharmaceutical organizations

		structions; possesses the skills of quality control of medicines in the conditions of pharmaceutical organizations.				
PC.18	the ability to carry out procedures for the withdrawal from civil circulation of counterfeit, substandard and counterfeit medicines and their destruction	knows the definition of falsified, substandard and counterfeit drugs, regulatory documents on the procedure for the destruction of drugs; knows how to apply the procedure for carrying out the procedure for the seizure and destruction of falsified, substandard and counterfeit drugs; possesses the skills of working with regulatory documents on the procedure for the seizure of falsified, substandard and counterfeit medicines, their destruction.	does not know the procedure for identifying falsified, substandard and counterfeit medicines, their seizure and destruction	Allows significant errors in the application of knowledge and skills in the field of identification and withdrawal from circulation of counterfeit, substandard and counterfeit medicines and their destruction	allows minor errors in the application of knowledge and skills in the field of identification and withdrawal from circulation of counterfeit, substandard and counterfeit medicines and their destruction	comprehensive systematic knowledge in the field of identification and withdrawal from circulation of counterfeit, substandard and counterfeit medicines and their destruction
PC.19	ability to support the activities of pharmaceutical organizations in occupational health and safety	Knows the normative documentation on labor protection and safety measures; knows how to ensure the activities of a pharmaceutical organization in terms of labor protection and safety in accordance with the current regulatory documents; possesses the skills of ensuring the activities of a pharmaceutical organization on labor protection and safety measures in accordance with the current ND	Knowledge is unsystematic, difficulties in understanding the basics of labor protection of a pharmaceutical organization.	Knowledge of the main provisions of ensuring the activities of pharmaceutical organizations on labor protection and safety.	Minor errors in the knowledge of the basic provisions of ensuring the activities of pharmaceutical organizations on labor protection and safety.	Comprehensive in-depth knowledge of the basics of health and safety in pharmaceutical organizations.
PCEU.1	The ability to predict possible mechanisms of the biological action of a substance based on its chemical structure	Knows the main biological targets in the human body, know the chemical foundations of biological processes in living organisms; knows how to correctly predict possible transformations of a chemical compound in a living organism; possesses the skills of analytical thinking in the field of the relationship between structure and properties of a chemical compound.	does not know the main biological targets in the human body; does not know how to correctly predict possible transformations of chemical compounds in living organisms; does not possess the skills to analyze the structure-property relationship of a chemical compound.	Knows the main biological targets in the human body; does not know how to correctly predict possible transformations of chemical compounds in living organisms; does not possess the skills to analyze the structure-property relationship of a chemical compound.	knows the main biological targets in the human body, knows how to correctly predict possible transformations of chemical compounds in living organisms; cannot correctly analyze the structure-property relationships of a chemical compound.	knows the main biological targets in the human body, knows how to correctly predict possible transformations of chemical compounds in living organisms. and possesses the skills of analyzing the structure-property ratio of a chemical compound
PCEU.2	Possess a system of knowledge about the mechanism of	knows the mechanisms of action and pharmacodynamics of medicinal substances in animals, their	Lack of knowledge about the mechanism of action of drugs on the body of	knows the mechanisms of action of certain medicinal substances on the	knows the mechanisms of action of medicinal substances on the body	knows the mechanisms of action of medicinal substances on the body

	action of medicinal substances on the animal organism, its individual systems and functions, the relationship between the chemical structure of medicinal products and the nature of their pharmacological action; the ability to successfully act on the basis of knowledge, skills and practical experience in solving problems of professional activity	side and toxic effects; principles of dosing of pharmacological substances; sources and methods of obtaining medicinal substances; compatibility of medicinal substances; the reasons for the emergence of drug resistance and the ways to overcome it; knows how to distinguish the nature of the action of the drug on animals by clinical, physiological and biochemical changes; owns the method of prevention of undesirable actions of medicinal substances	animals, the relationship between the chemical structure of drugs and the nature of their pharmacological action	animal organism, is poorly guided by the relationship between the chemical structure of drugs and the nature of their pharmacological action	of animals, is poorly guided by the relationship between the chemical structure of drugs and the nature of their pharmacological action	of animals, is guided by the relationship between the chemical structure of drugs and the nature of their pharmacological action
PCEU.3	Ability and willingness to assess ethical aspects of biomedical technology	Knows the essence and causes of modern ethical problems in biomedical technologies; knows how to correctly identify and evaluate bioethical situations; has the ability to independently resolve bioethical conflicts and dilemmas	Does not know the essence and causes of modern ethical problems of biomedical technologies; complete lack of ability to correctly identify and evaluate bioethical situations; completely lacks the ability to independently resolve bioethical conflicts and dilemmas	He mediocresly knows the essence and causes of modern ethical problems of biomedical technologies; generally knows how to correctly identify and evaluate bioethical situations; has a satisfactory ability to independently resolve bioethical conflicts and dilemmas	knows the essence and causes of modern ethical problems of biomedical technologies; at a sufficiently high level is able to correctly identify and evaluate bioethical situations; has the skills to independently solve bioethical conflicts and dilemmas	Deeply and comprehensively knows the essence and causes of modern ethical problems; knows how to unmistakably identify and evaluate bioethical situations; confidently has the skills to independently resolve bioethical conflicts and dilemmas
PCEU.4	Able to provide first aid on the territory of a pharmaceutical organization in case of emergency for visitors and employees of the organization before the arrival of the ambulance team.	Knows the essence and significance of using first aid techniques in case of poisoning; characteristic signs of various types of poisoning; knows how to use first aid techniques; determine the condition of the victim by external signs; choose the most effective way to provide first aid and the means (including helpers) for its implementation; owns the technologies of using various first aid techniques;	Not able to provide first aid on the territory of a pharmaceutical organization in case of emergency.	Knows about the methods of first aid, is not able in practice to provide first aid to the victim	Knows about the methods of rendering first aid, is able in practice to provide first aid to the victim, making minor mistakes.	Able to fully provide first aid on the territory of a pharmaceutical organization in case of emergencies among visitors and employees of the organization before the arrival of the ambulance team.



## **Criteria for assessing the student's answer on the state exam**

The answer is assessed for the mark:

**"Excellent"** if the typical situational task is correctly solved and a complete, correct and detailed answer with theoretical justification is given to all questions related to professional competencies in the field of technology, pharmacognostic and pharmaceutical analysis of drugs, organization, management and economics of pharmaceutical activities. The mark "Excellent" is impossible if the student has shown satisfactory or unsatisfactory knowledge on certain questions.

**"Good"**, if a typical situational problem is solved without significant errors, some inaccuracies were made in the formulation of the answer, but in general, a complete answer was given on issues related to professional competencies in the field of pharmaceutical technology, pharmacognostic and pharmaceutical analysis of drugs, organization, management and economics of pharmaceutical activities. Assessment "Good" is impossible if the student has shown unsatisfactory knowledge on at least one of the proposed questions.

**"Satisfactory"** if, when solving a typical situational problem, some significant errors were made in the formulation of the answer, lack of in-depth theoretical knowledge is shown, poorly substantiated and insufficiently demonstrated professional competence in the field of technology, drug quality assessment, management and economics of pharmacy, for more than 75 % of the questions attached to the problem or questions arising from it, an incomplete (or inaccurate) answer was given.

**"Unsatisfactory"**, if a typical situational problem is not solved or incorrectly solved, gross errors were made when answering more than 75% of the questions arising from or attached to the problem, and an incorrect answer or no answer was given to additional questions asked.

## **PROCEDURE FOR ORGANIZING AND CARRYING OUT PROTECTION OF THE GRADUATE QUALIFICATION WORK OF A SPECIALIST**

The final qualification work (hereinafter - FQW) is the final stage of state certification and shows the graduate's readiness to independently solve theoretical and practical problems based on the study and generalization of modern problems of pharmacy. It is a mandatory part of the state final certification and is a complete development, in which, based on the study and generalization of modern problems of pharmacy, an independent solution to a particular research or practical problem is proposed.

The purpose of the FQW is to determine the compliance of the results of the development of the educational program by the students with the requirements of the MSOS PSU in the specialty 33.05.01 Pharmacy, as well as the systematization, consolidation and expansion of theoretical knowledge and practical skills in the specialty.

When performing an FQW, a student, relying on the knowledge gained during training and the formed general cultural, general professional and professional competencies according to the SEES PSU in the specialty 33.05.01 Pharmacy, must show the ability and ability to independently solve theoretical and practical problems, competently present special information, reasonably substantiate and defend in front of the audience your point of view.

FQW is carried out on the basis of theoretical knowledge and using the practical skills acquired by the graduate during the entire period of study. Predominantly, the FQW should be focused on the knowledge obtained as a result of studying special disciplines, as well as in the process of a student undergoing industrial practice.

The implementation of FQW is carried out by students directly at the university with the provision of a workplace, laboratory equipment and technical means necessary for work, as well as in other institutions, organizations and enterprises.

FQW must correspond to the specialty and may contain the solution of a private research or practical problem posed within one or several special disciplines (pharmaceutical

chemistry, pharmacognosy, management and economics of pharmacy, pharmaceutical technology, pharmacology).

When preparing and defending the FQW, the student must show the level of his own mastery of the competencies provided for by the curriculum, the ability to professionally present special information, to reveal his creative and scientific potential.

The author of the FQW is responsible for all the information contained in it, the validity of the conclusions and protected provisions, the accuracy of factual material and other information.

FQW can be performed by several students together. The process of preparing and defending an FQW is accompanied and confirmed by the following documents:

- By the order of the dean of the faculty on graduates admitted to the State final attestation (6 calendar days before the date of the first state attestation test);
- An order on the topics of the FQW for each graduate (communicated to the students no later than 6 months before the start date of the state final certification);
- Order on securing the leaders (if necessary, consultants) of the FQW of each graduate (no later than 5 months before the day of defense of the FQW);
- Order on the composition of state examination commissions (no later than December 1 (for the chairman) and December 31 (for members of the SEB) of the previous year of the state final certification);
- Schedule of work of state commissions;
- Schedule of state certification tests (no later than 30 calendar days before the date of the first state certification test);
- The list of FQW reviewers (not later than 1 month before the date of the WRC defense);
- Graduation qualifying work (provided to the head in time, not later than 2 weeks before the date of defense);
- Withdrawal of the head for the final qualifying work (no later than 7 days before the date of defense of the FQW);
- A review of the final qualifying work (no later than 7 days before the date of defense of the FQW).

The FQW preparation process includes the following stages: - appointment of the WRC leader;

- selection of the theme of the FQW;
- receiving an individual task plan from the head;
- selection and study of literature on the research topic;
- drawing up a plan for the FQW;
- execution of experimental work, collection of material, its analysis and generalization;
- writing FQW; - presentation of the FQW to the scientific advisor;
- completion of the FQW in accordance with the remarks of the scientific supervisor; - preparation of the final copy of the FQW;
- obtaining the opinion of the supervisor;
- receiving a review;
- preparation of a report and presentation for the defense of the FQW;
- pre-defense of FQW at the department;
- defense of the FQW at a meeting of the State Examination Commission.

After the defense, the final qualifying works are handed over for storage to the Department of Pharmacology and Pharmacy. The shelf life of graduate qualification works at the department is 5 years, after which the works are submitted to the archive.

### **APPROVAL OF THEME AND SCIENTIFIC GUIDANCE**

Themes of the final qualification works are updated annually, approved by the Academic Council of the Faculty of Chemistry and communicated to the students by the dean

of the faculty no later than 6 months before the start date of the state final certification under signature.

A student can propose his own FQW topic if he justifies the expediency of its development for practical application in the relevant field of professional activity or at a specific object of professional activity. In this case, he submits an application addressed to the dean of the faculty. The application must be submitted no later than 6 months before the start date of the state final certification. The proposed topic is approved by the Academic Council of the Faculty.

The topic of the FQW is assigned to the student within a month from the day the recommended topics of the FQW are brought to the attention of the students on the basis of a personal statement. The statement is signed by the head of the department and approved by the dean of the Faculty of Chemistry.

The application specifies the topic of the final qualifying work and information about the scientific supervisor of the FQW.

When choosing a topic, the student is encouraged to:

- take into account the possibilities of access to empirical data, scientific sources on the topic;

- identify the presence of unexplored problems in this area;

- take into account the relevance and novelty of the problem for science, society, the state, specific organizations, institutions, take into account the interests and needs of enterprises and organizations, on the materials of which the work was done;

- determine for yourself whether your own potential (theoretical knowledge, knowledge of the methodological base, the ability to use it correctly) will allow you to conduct a full-fledged study of the selected problem and offer your own scientifically grounded conclusions;

- understand that the FQW uses both theoretical and empirical research methods, and it should be devoted to solving a scientific and practical problem. The scientific supervisor of the FQW is appointed from among the professors and associate professors of the department, incl. with the academic title of associate professor or professor. As an exception, university lecturers and employees who do not have academic degrees and titles, but have extensive experience in scientific and practical activities in the direction of FQW topics, are involved in the leadership. The scientific advisor is appointed simultaneously with the consolidation of the topic. The appointment of a scientific advisor is carried out by order of the rector of Perm State University, the order is issued no later than 5 months before the day of defense of the FQW.

Replacement of the supervisor is allowed by the order of the dean of the Faculty of Chemistry only in the presence of objective circumstances no later than 3 months before the defense.

In case of objective impossibility of scientific leadership, replacement is possible at a later date. The duties of the supervisor include:

- assistance in determining the topic of the FQW, writing an abstract, determining the order of implementation and drawing up a work plan;

- recommendation on the selection of the main scientific sources, reference materials, normative documents on the topic of the work;
- providing the student with a material base for research;

- Conducting planned systematic consultations, adjusting the student's activities in the course of work, monitoring research results and their quality;

- implementation of methodological guidance on the profile of the research;
- assistance in the development of modern scientific research methods;

- assistance in preparation for publication of a publication on the subject of FQW;
- control of the progress of work and the degree of its compliance with the requirements;
- prevention of plagiarism at work;

- drawing up a response to completed work.

The opinion of the supervisor should characterize:

- the performance of the work in accordance with the established deadlines, the attitude of the graduate to the performance of the work, the degree of independence and initiative of the student;

- the ability to find and organize literature;
- scientific level, completeness, quality and novelty of the development of the topic, advantages and disadvantages of the work;
- possession of modern methods of analysis;
- assessment of the reliability of the results obtained by the student;
- the ability to make calculations and analyze the results obtained, generalize, make scientific and practical conclusions;
- work shortcomings;
- areas of possible use of the results of work;
- availability of publications and speeches of the graduate at conferences;
- conclusion of the scientific advisor.

When performing an FQW, a student is obliged:

- to accept an assignment on an approved topic;
- follow all the instructions of the head;
- comply with fire safety requirements, safety measures when working in laboratories;
- show activity and initiative in conducting research, coordinating their actions with the head;
- to test the work in the form of messages at student and other scientific conferences, publications in scientific journals and collections.

The student has the right to use the library fund, laboratory equipment, reagents and computer equipment of the department when preparing FQW.

## **GRADUATE QUALIFICATION REQUIREMENTS**

### **Content requirements**

The content of the FQW provides for:

- the formulation of a scientific, scientific-production or educational-methodical problem, the development of a new research methodology or its hardware;
- obtaining new results and their interpretation and generalization; - approbation of the results obtained in the form of reports at scientific conferences or publications in scientific journals and collections.

The general requirements for FQW are:

- clarity of the construction of the material,
- logical sequence of presentation of the material, - convincing argumentation,
- brevity and accuracy of formulations,
- concreteness of presentation of the results of work,
- evidence of conclusions and validity of recommendations.

The material in the FQW should be presented clearly, clearly, from a third person, using the accepted scientific terminology, avoiding repetitions and generally known provisions found in textbooks and teaching aids. It is necessary to explain only little-known or contradictory concepts, making a reference to authors expressing different opinions on the same issue.

### **Requirements for the volume**

The final qualifying work is submitted in the form of a manuscript (recommended volume of 30 - 60 pages of the printed text) in the printed and bound form, as well as in the form of an electronic copy.

## Requirements for structure and design

- The FQW should contain the following elements:
- - title page;
- - abstract;
- - content;
- - introduction;
- - literature review;
- - main part (experimental part, including a description of the methodology and research results and implementation part, including proposals and recommendations based on the research results);
- - conclusion;
- - list of used literature;
- - applications.

**The title page of the FQW** is drawn up uniformly in accordance with the accepted model (Appendix 1). It contains the full names of the founder of the university, the university itself, faculty, department; the topic of the work (the word “topic” is not written); information about the performer, scientific supervisor; location (city) of the university, year of writing the work. The title page is the first page and is not numbered.

**The abstract** should briefly reflect the main content of the work and contain information about the structure of the work (number of pages, figures, tables), the purpose of this research, approbation of research results (publications). The abstract is located on a separate page.

Abstract outline:

- a) information about the main achievements of scientific research (the essence of the work performed, research methods, the scope of the results);
- b) the number of literary sources
- c) the number and nature of illustrations (diagrams, graphs, figures, tables) (Example - Fig. 6. Fig. 2. Graph. 4. Table 7.)
- d) the number of pages (Example - 57 P.). The volume of the abstract is up to one page.

**The content** includes the name of all sections and subsections with the indication of the page numbers on which the beginning of the material of the chapter, section (subsection) is located. All chapters, sections (subsections) should be titled and numbered in Arabic numerals. The wording of the titles of chapters and sections (subsections) in the table of contents must exactly correspond to the headings in the text of the work.

In the main text, chapter headings are formatted in capital letters in the center, and subheadings of sections (subsections) - starting with capital letters.

On the next page, after the content, it is desirable to provide a list of abbreviations and conventions used in the work.

**The introduction** briefly characterizes the current state of the scientific problem to which the work is devoted. It substantiates the choice of the topic, its relevance and significance, determines the object and subject of research, formulates goals and objectives. The methods used in the research are indicated. The scientific novelty and the provisions submitted for defense are indicated, publications, approbations (if any) are indicated. The volume of administration is 1.5–2 P.

### Literature review

The purpose of the literature review is to present and systematize the knowledge accumulated on the issue under study both in our country and abroad, a critical analysis of previously published works in this area of research. The information contained in the literature review should make it possible to objectively assess the level of scientific research of the problem, the feasibility of its solution, and choose the right ways and means to achieve the research goal. In a literary review, you should cover only the material that is directly related to the topic of the work. Conflicting information contained in different source documents should

be carefully analyzed and discussed. The list of used literature should include at least 30 sources, including foreign ones, including works of recent years. The volume of the literature review 15-25 P.

### **Main part**

The materials of the main research part must be collected or obtained independently by the student during the period of internship. These materials should be based on the research work of the department, scientific or industrial organizations. The research part should be a completed research, indicating the level of professional training of the author.

Based on the results of the research, the student develops proposals and recommendations.

**The conclusion** contains conclusions concerning the entire work and corresponding to the tasks set in the introduction, practical recommendations for using the work, and a proposal for a specific solution to problems. Negative results of work are indicated along with positive ones. The conclusions in the conclusion should be concise and clear, giving a complete picture of the content, significance, validity and effectiveness of the developments. The volume of conclusions is 1-1.5 P.

**The list of used literature** includes all the sources on the topic that the student got acquainted with when writing the work, arranged in alphabetical order (at least 30). Citation must be accurate, in compliance with all the features of the original. A reference to a literary source, as well as the presentation of other people's thoughts in the text of the WRC, must be accompanied by a number in square brackets, under which the source is given in the bibliography. In the text, the quotation is enclosed in quotation marks and is accompanied by a link, which indicates the number of the source according to the list of references and the page on which the quoted text is located. For example, [7, p. 105]. If the author formulates his thought, relying on several sources, then in brackets it is indicated as follows: [10; 48; 55]. The absence of links to materials, statements, opinions, statements, statements, etc. that do not belong to the author is equated to plagiarism and copyright infringement and is the basis for preventing the author of the FQW from protection at any stage of its consideration.

The list of used sources, including Internet sources, and links to them in the text of the work is made in accordance with state educational standard R 7.0.5-2008 "Bibliographic reference. General requirements and rules for drawing up".

**Appendices** contain auxiliary materials that take up a large volume and for this reason are not included in the main text: additional tables, figures, photos, formulas and graphs, spectra, instructions, methodological material, computer printouts, descriptions of devices used in experiments, acts of implementation, illustrations of auxiliary character and other documents.

Each application begins with a new page, in the upper right corner of which is written the word "Application" and a number indicated by an Arabic numeral (without the number sign). Each application must have a title (written in the center of the sheet). In the lower left corner, you can indicate on the basis of which sources the application was compiled. The scope of applications is not limited.

The text of the FQW should be typed in a text editor MS Word and printed on white paper in Times New Roman font in size 14 pt in black. Figures, graphs, tables and appendices are not included in the calculation of the volume of the text part of the work. Text page format - A4, page orientation - portrait, left margin - 30 mm, right margin - 10 mm, top and bottom margins - 20 mm. Formatting of paragraphs: Text alignment - in width, word hyphenation is allowed. Left and right indentation - 0. The first line is indented - 1.25 cm. The spacing before and after - 0. Line spacing - one and a half (1.5 lines). The page number is placed at the bottom of the page in the center, on the first page (title page) the number is not placed (a "special header and footer for the first page" is set).

The table of contents, introduction, all chapters, conclusion, bibliography, as well as the appendix are printed from a new page.

The distance between the heading and the following text should be one line, between

sections in one chapter - 2 lines. No additional spacing is required between the subsection title and the text.

**Illustrations.** All illustrative material (photographs, diagrams, drawings, etc.) are referred to as drawings. Each drawing is accompanied by a signature. The figure caption is located below it and is drawn up as follows: Fig. 1. Title. The numbering of figures should be continuous throughout the entire work. Figures should be placed immediately after reference to them in the text.

Illustrations should be done using computer graphics. The number of illustrations placed in the work is determined by its content and should be sufficient in order to give the stated text clarity and expressiveness. The axes of the graphs should reflect the measured values and their units of measurement. The scale should be drawn on the axes using strokes of the same size. The scale step must be chosen from the recommended range: 1, 2, 5 units.

**Tables.** The digital material presented in the work is recommended to be drawn up in the form of tables. Each table must have a title and a sequential number. Tables are numbered within a chapter in Arabic numerals. Above the upper right corner of the table, place the inscription "Table" indicating the serial number. The heading is placed under the word "Table" in the center. The word "Table" and the title are printed in capital letters, font 14, bold. The title should not be underlined. The structure of the table should be as simple as possible, it should not have few filled columns. Tables are divided into columns (columns). All of them must have headings with a capital letter. If necessary, the headings of the columns can have subheadings. Subheadings begin with lowercase letters (if they have a meaning in their own right, they begin with uppercase letters). The contents of the tables (digital data) are centered, font size 12. Column "№" should not be included in the table if there is no need to refer to these numbers in the text.

The table should be placed after the first mention of it in the text. Large tables - more than one printed sheet, should be placed in annexes. When transferring the table to the next page, the words "Continuation of the table." indicating the number. When referring to a table, its full number is indicated in the text, and the word "table" is abbreviated, for example, (Table 1). The numbering of tables should be continuous throughout the entire work. If there is only one table in the work, then it is not numbered and the word "Table" is not written.

If the compiler of the table does not have information to fill in a particular cell of the table, then an ellipsis (...) is put or "no information" is written. In the absence of a phenomenon, that is, the ability to put down any information in a cell of the table, a dash is put.

Formulas are given in the text after the first mention of them. Calculation formulas in the text are highlighted in a separate line in the center, font 12, no highlight, with a detailed explanation of each character (when it is first encountered). The numbering of formulas should be continuous throughout the entire work, the number is located to the right of the formula along the edge of the text. The link in the text should be of the form (1), which means the first formula.

All newly obtained compounds must be named. For the names of organic compounds, the IUPAC nomenclature should be used. For brevity and clarity of discussion of the connection, it is recommended to number using Roman numerals (in the text in brackets). In the following, instead of the full name of a compound or formula, a Roman numeral with an auxiliary word is given. For example, acid (II), compound (X).

## ADMISSION TO PROTECTION

The work completed and signed by the student is submitted to the supervisor for drawing up a review and sending it for review no later than 2 weeks before the date of defense of the FQW.

The final qualifying work is submitted in printed form and in the form of an electronic file. The absence of an electronic file is the basis for "denial" to protection.

The supervisor carefully examines the work, signs it and draws up a short written review of the student's work during the preparation of the final qualifying work.

The supervisor is obliged to check the work for the presence of incorrect borrowings that are not properly referenced, and to assess the degree of independence of the text, which takes into account not only formal, but also meaningful borrowings.

The opinion of the head of the FQW is provided to the head of the department no later than 7 days before the date of the defense of the FQW to the students.

In order to control the quality of the content of the FQW and prepare students for its defense, the graduating department conducts a preliminary defense of all the works of the department at an extended meeting.

For preliminary defense, the student presents: full unbound (unbound) text of the work; report on the results of the work carried out during the preparation of the FQW; presentation.

The pre-defense of the FQW is carried out no later than 5 calendar days before the date of defense by a commission consisting of the head of the department and the teaching staff of the graduating department. On the pre-defense, the presence of a leader is obligatory, who provides feedback on the student's work during the preparation of the FQW. If several students perform work, the manager submits a review of their joint work during the preparation of the FQW. During the pre-defense, the content of the FQW is checked for compliance with the declared topic and the task of the head, the structure and correctness of the design, presentation and (or) illustrative material, a presentation is heard for the defense.

After hearing the message, the commission recommends the student to make the necessary corrections and additions to the work, and also makes a decision about the readiness of the work for defense. Remarks and additions to the FQW, expressed in the pre-defense, must be taken into account by the graduate before submitting the work to the State Examination Commission.

Based on the results of the preliminary defense, the head of the department makes an appropriate entry on the admission of the FQW to the defense on the title page of the work. The decision on admission to the defense of FQW that have not passed the pre-defense is made at a meeting of the department.

## **REVIEW OF FQW**

For the reviewing of the final qualifying work, the specified work is sent to the head of the corresponding department to one or more reviewers. The approval of the reviewers is carried out at a meeting of the specified department no later than 1 month before the date of defense of the final qualifying work.

As a reviewer, a teacher, a researcher from other departments or specialists from educational, research, industrial and other institutions and organizations, preferably with a candidate's or doctoral degree, who is well versed in issues related to the topic of work, can be appointed.

The FQW reviewer cannot be a teacher of the department in which it was performed.

The reviewer is obliged to familiarize himself with the manuscript, express his comments, prepare a written review. The review must be reasoned to reflect the opinion of the reviewer about the work. Based on the results of the examination of the FQW, the reviewer submits a written review to the head of the graduating department no later than 7 days before the date of defense of the final qualifying work. If the reviewer is not an employee of the Faculty of Chemistry of Perm State University, then his signature must be certified by the seal in the personnel department at the place of work.

The review of the final qualifying work is characterized by:

- relevance of the topic;
- compliance of the work with the declared topic;
- compliance of the peer-reviewed work with the established requirements in relation to the completeness and degree of development of questions;



- general conclusion about the theoretical, scientific and practical level of work;
- positive aspects of the work (creative approach to the development of a topic, the use of new ideas, the possibility of practical use of the work;
- shortcomings in the work, in the presentation and design of the material;
- the proposed assessment of the work.

The review ends with a general assessment of the work ("excellent", "good", "satisfactory", "unsatisfactory") and a conclusion about the possibility of awarding the graduate with the qualification "Pharmacist".

The head of the relevant department ensures that the student is familiarized with the review and review (reviews) no later than 5 calendar days before the defense of the final qualification work through the student's personal account in the unified teleinformation system of PSU (hereinafter - UTS PSU). Obtaining a negative review is not an obstacle to submitting a work for defense. Changes to the work after receiving feedback and reviews are not allowed.

The texts of the final qualification works are placed by the scientific advisor at UTS PSU no later than 2 days before the defense. Access of persons to the texts of final qualifying works should be ensured in accordance with the legislation of the Russian Federation, taking into account the removal by the decision of the copyright holder of production, technical, economic, organizational and other information, including on the results of intellectual activity in the scientific and technical sphere, on the methods of carrying out professional activities that have actual or potential commercial value due to their unknown third parties.

If it is impossible to post the text of the final qualifying work in UTS PSU, the work manager, no later than the day of defense, places a memo, which indicates the following information: last name, first name, patronymic of the student, specialty, topic of the final qualifying work, its head, reviewer (or reviewers) , the reason why the work cannot be posted in full, the date and signature of the supervisor.

Work with a review and a review is transferred to the SEC by the head of the department no later than 2 calendar days before the day of defense. Students who have not fulfilled the requirements of the curriculum, who have not submitted all the necessary documents for the defense according to the list, by the order of the dean are not allowed to defend their final qualifying work and get the opportunity to pass the final certification no earlier than 10 months later.

## **PROTECTION OF GRADUATE QUALIFICATION WORK**

Students who do not have academic debt and who have fully completed the curriculum for the educational program of higher education being mastered are allowed to the procedure for defending the final qualifying work. The defense of the final qualifying work is carried out at an open meeting of the State Examination Commission (SEC).

The defense of the final qualifying work is carried out within the timeframe established by the schedule of the educational process with the participation of at least 2/3 of the members of the full payroll of the commission. Anyone can attend the defense of the final qualifying work.

The scientific advisor and reviewer are present at the defense. If it is impossible for the scientific advisor or reviewer to be present for a good reason, the head of the department, who made a decision on admitting work to the defense, notifies the chairman of the commission and is present at the defense himself.

The approximate procedure for the work of the State Electoral Commission for the defense of the final qualifying work:

### **• Introduction of the graduate.**

At the beginning of the defense, the chairman or secretary of the SEC introduces the graduate, notes the topic of his work, the admission of work to the defense by the relevant department, informs the members of the SEC with the full name of the student. the head of the final

qualifying work, the mark received by the graduate in the state exam. Then the chairman of the SEC gives the floor to the graduate.

- **Graduate report.** It sets out the main provisions of the final qualifying work. 10–12 minutes are allocated for the report, during which the graduate sets out the purpose of the work, the methods used in it, argues the options for solving the problem that he has chosen, and draws a conclusion about the results obtained. In the course of the report, the graduate uses illustrations and graphic materials prepared by him. The report is accompanied by a computer presentation.
- **Answers to questions from members of the commission.**
- **Reviewer review** (in the absence of reviewer, the secretary of the SEC reads the review text). If necessary, at the request of the commission, the opinion of the scientific adviser can also be announced.
- **Student responses to comments.** After the speech of the reviewer, the student is given the floor to answer the comments and questions contained in the review.
- **Discussion.** The chairman of the SEC provides an opportunity for those present to express their opinion on the work presented for the defense. After the student has made a final speech, the defense ends. The total duration of the defense of the final qualifying work, as a rule, should not exceed 30 minutes.
- **Making a decision by the SEC** on the compliance of the final qualifying work with the qualification requirements.

## EVALUATION OF FQW (INDICATORS AND CRITERIA FOR EVALUATION OF COMPETENCIES)

After the defense, the SEC conducts a discussion of the work in order to determine the estimates. When determining the assessment for the defense of the final qualifying work, the following are taken into account: 1) the content of the work, its compliance with general requirements; 2) the relevance of the task; 3) the quality of the report, literacy of speech, the degree of proficiency in professional terminology; 4) the consistency and validity of the presentation of the results; 5) the reliability of the results and the validity of the conclusions; 6) independence of work performance; 7) the possibility of practical use of the results obtained; 8) the ability to competently answer questions; 9) feedback from the manager and reviewer.

The design of the work, the accuracy of the design, the correct use of information sources, including compliance with the rules for compiling a list of used literature, compliance with the rules of professional ethics, are assessed separately. The correspondence of the style of work to the scientific style of writing is also assessed, as well as the observance of the intermediate and final terms of preparation and delivery of the final qualifying work by the students.

During the defense, the members of the commission assess the student's ability to conduct a discussion and his general level of culture of communication with the audience during the defense. The attestation commission conducts discussion and final assessment of the results of the defense at a closed meeting by a simple majority of votes of the members of the commission with the obligatory presence of the chairman of the commission or his deputy. With an equal number of votes, the chairman's vote at the SEC meeting is decisive.

After analyzing the work according to the specified criteria, the SEC gives an assessment for the defense of the final qualifying work ("excellent", "good", "satisfactory", "unsatisfactory"). The results of the FQW defense are announced on the same day after the SEC meeting.

**"Excellent"** - the work was done in accordance with the requirements. It clearly formulates the topic, goal and objectives of the study, substantiates its relevance, novelty and practical significance. It is of a research nature, contains a well-presented theoretical part, a logical, consistent presentation of the material with appropriate conclusions and reasonable proposals. The content of the work is fully consistent with the topic. The analyzed material has a sufficient volume and allows you to draw reliable conclusions. The work has a positive

review from the supervisor ("excellent"). It is impeccably designed (spelling, accuracy, correctness of footnotes, bibliography);

When defending the work, the student shows a deep knowledge of the issues of the topic, freely operates with research data, makes reasonable suggestions, uses visual aids during the report, competently answers the questions posed.

**"Good"** - the work is of a research nature, contains a well-presented theoretical part, a sufficiently detailed analysis and critical analysis of the issue under study, is characterized by a consistent presentation of the material with appropriate conclusions. The work was performed in accordance with the requirements for the design of the final (diploma) qualification work. During the defense, the student demonstrates knowledge of the issues of the topic, during the report uses visual aids, without any particular difficulty answers the questions posed. However, there are design flaws in the work. It is not framed neatly enough. The literature list does not fully reflect the available sources on the research topic. The content and results of the study were not reported clearly enough. The graduate did not answer all the questions asked. The work has a positive review from the supervisor with a recommended grade of "good".

**"Satisfactory"** - is awarded for a work that is of a research nature, contains a theoretical chapter, is based on practical material, but has a superficial analysis and insufficient critical analysis. The work has comments on the content and depth of the study. Conclusions are not specific, recommendations and proposals are poorly reasoned. The work is framed inaccurately, contains typos, errors. The bibliography is limited; a number of important sources on the research topic are missing. The manager's response contains comments on the content of the work. When defending the work, the student shows uncertainty, shows poor knowledge of the issues of the topic, does not give a complete, reasoned answer to the questions asked.

**"Unsatisfactory"** is awarded for work that is not of a research nature. The student is poorly versed in the research topic, not familiar with the basic concepts and methods. The work contains gross factual errors. The work is insufficient. Conclusions are missing or trivial. There are critical remarks in the manager's review. The work was reported unconvincingly, illogically, there are practically no answers to the questions posed.

A student who has not defended the FQW due to failure to appear at the SEC meeting for a good reason (temporary disability, performance of public or state duties, summons to court, transport problems (flight cancellation, lack of tickets, weather conditions) or in other cases, the list of which is established by Perm State University ), has the right to pass it within 6 months after the completion of the state final certification. The student must submit a document confirming the reason for his absence to the dean's office of the Faculty of Chemistry, within a month from the date of the state certification test.

The results of the state final attestation are announced to the graduate on the same day after the registration and approval in the prescribed manner of the minutes of the SEC meeting. Based on the results of the state final certification of graduates, the State Examination Commission makes a decision on awarding them a qualification in the specialty and issuing a diploma of higher pharmaceutical education. A graduate who has not passed the final state attestation within the established timeframe is expelled from a higher educational institution with the issuance of a certificate of study or a period of study.

## Indicators and criteria for assessing the competencies of the FQW

Competency code	Competency name	Assessment indicators	Assessment criteria	Method / Tool of assessment
<b>GCC.2</b>	Possess communication skills, be able to reasonably and competently build oral and written speech in Russian, the ability to communicate in social and industrial activities	Able to communicate verbally and in writing in Russian	Fluent in the norms of the Russian literary language, demonstrates developed skills of the culture of social and business communication in Russian, compiles competent professional texts	Defense of the FQW (content of work, report, answers to questions from members of the state commission)
<b>GCC.3</b>	Ability to work independently and in a team, be able to find and make organizational and managerial decisions, assess their effectiveness	Knows how to work independently and in a team. Able to make organizational and managerial decisions and evaluate them	Demonstrates the ability to work independently and in a team, to evaluate the organizational and managerial decisions made	Defense of the FQW (content of work, report, answers to questions from members of the state commission)
<b>GCC.4</b>	Critically analyze and evaluate your professional and social experience, if necessary, the willingness to change the profile of your professional activity, to demonstrate a readiness for self-development and self-improvement, professional development and skill improvement	Is able to reflect on his own professional and social experience	Demonstrates the ability to analyze and critically assess professional activity, as well as predict its development	Defense of the FQW (content of work, report, answers to questions from members of the state commission)
<b>GCC.5</b>	Ability to apply legal and ethical norms in their professional activities and assess its consequences, to know their rights and the ability to take a civil position	Knows the rights, freedoms and duties of a person and a citizen in the field of professional activity. Knows about the legal norms of the current legislation governing relations in the professional sphere	Demonstrates knowledge and ability to apply legal and ethical norms in their professional activities	Defense of the FQW (content of work, report, answers to questions from members of the state commission)
<b>GCC.6</b>	Ability to analyze socially significant problems and processes	Knows the basic laws and values of world and Russian culture and understands their significance, analyzes socially significant processes and phenomena, is able to navigate in political and social processes, to take them into account in professional activities	Demonstrates the formed, systematic knowledge about the basic laws and values of world and Russian culture, fully evaluates their significance; freely analyzes socially significant processes and phenomena, easily navigates in most political and social processes, takes into account their impact on professional activities	Defense of the FQW (content of work, report, answers to questions from members of the state commission)
<b>GCC.8</b>	Master the basic vocabulary and	Knows the vocabulary, phonetic and	Demonstrates knowledge of	Defense of the FQW

	grammar of one of the foreign languages, the basics of colloquial speech; the ability to read texts on general educational and professional topics, to convey their content in Russian and foreign languages	grammar rules of a foreign language, necessary for the formation of communicative competence. Knows how to apply lexical, phonetic and grammatical skills in everyday and professional communication. Possesses the skills of reading, speaking, listening and writing in everyday communication.	vocabulary, phonetics and grammar rules of a foreign language, the ability to apply lexical, phonetic and grammatical skills in everyday and professional communication, the ability to read, speak, perceive information in a foreign language by ear	(content of work, report, answers to questions from members of the state commission)
<b>GCC.9</b>	Possess basic knowledge in the field of computer science, skills in using software tools and working in computer networks, the ability to acquire new knowledge using modern information technologies	Knows the purpose and method of using basic software and hardware for processing data of various types. Knows how to expediently select and use software tools to solve problems in his subject area	Demonstrates the ability to use basic software and hardware for processing data of various types and to choose software for solving problems in his subject area	Defense of the FQW (content of work, report, answers to questions from members of the state commission)
<b>GCC.10</b>	Understand the essence and significance of information in the development of modern society, comply with the basic requirements of information security, including the protection of state secrets	Knows how to recognize information as information constituting a state secret. Possesses the skills of distinguishing between law and morality. Knows how to choose adequate authorization for socially beneficial behavior of members of civil society	Demonstrates the ability to recognize information as information constituting a state secret and to choose adequate authorization for socially beneficial behavior of members of civil society. Has the skills to distinguish between law and morality.	Defense of the FQW (content of work, report, answers to questions from members of the state commission)
<b>GPC.2</b>	Possess modern methods of natural science research, data analysis, design	Knows the basics of computer design in solving statistical problems. Knows how to process the received data using a personal computer. He is fluent in modern methods of natural science research, data analysis, programming.	Demonstrates knowledge of computer design and the ability to process the received data using a personal computer and programming tools	Defense of the FQW (content of work, report, answers to questions from members of the state commission)
<b>GPC.3</b>	Ability to master new technologies and apply them to conduct natural science research	Knows modern trends in the development of science and technology. Knows how to master new technologies and apply them to conduct natural science research. Possesses modern technical means and computer technologies.	Demonstrates the ability to master new technologies and apply them to conduct natural science research using technical means and computer technology	Defense of the FQW (content of work, report, answers to questions from members of the state commission)
<b>GPC.4</b>	Have basic knowledge in the field of fundamental sections of mathematics in the amount necessary for mastering the mathematical apparatus in the	Knows and is able to apply the basic concepts, formulas and statements of mathematics necessary for processing and analyzing data in the professional	Demonstrates knowledge, skills and readiness to apply the basic concepts, formulas and statements of mathematics necessary for processing	Defense of the FQW (content of work, report, answers to questions from members of the

	professional field, for processing and analyzing observational data	field. He is fluent in the basic techniques and methods of mathematics for data processing and analysis.	and analyzing data in the professional field.	state commission)
<b>GPC.6</b>	Willingness to participate in scientific research	Knows the laws of physics and chemistry, as well as options for their application for solving applied problems; is able to carry out appropriate calculations based on the obtained experimental data and graphically display the obtained dependences; use reference literature; analyze and discuss research results. Possesses the skills of conducting research of systems and processes using modern methods and equipment.	Demonstrates knowledge of the laws of physics and chemistry and the ability to apply them to solve applied problems using modern methods and equipment, to carry out appropriate calculations based on the experimental data obtained, and to graphically display the resulting dependencies.	Defense of the FQW (content of work, report, answers to questions from members of the state commission)
<b>GPC.7</b>	Possess safety standards and the ability to implement them in laboratory and technological conditions	Knows the safety rules in laboratory and technological conditions and knows how to use them, as well as organize the work process in accordance with safety standards. Possesses the basic skills of safe work in a chemical laboratory and at a technological site.	Demonstrates knowledge and ability to use safety rules in laboratory and technological conditions. Possesses basic skills for safe work in a chemical laboratory and at a technological site.	Defense of the FQW (content of work, report, answers to questions from members of the state commission)
<b>GPC.8</b>	The ability to solve problems of professional activity based on information and bibliographic culture using information and communication technologies and computing tools, taking into account the basic requirements of information security	Knows information and communication technologies and computing facilities. Knows how to solve problems of professional activity based on information and bibliographic culture. Possesses the basic requirements of information security.	Demonstrates knowledge of information and communication technologies and computing facilities, demonstrates the ability to solve problems of professional activity based on information and bibliographic culture using the basic requirements of information security.	Defense of the FQW (content of work, report, answers to questions from members of the state commission)
<b>GPC.9</b>	Ability and willingness to analyze the results of their own activities to prevent professional mistakes	Knows the theoretical foundations of analyzing his own activities to prevent professional mistakes; be able to apply theoretical knowledge in the practice of work; owns methods of analyzing his own activities to prevent professional mistakes	Demonstrates knowledge of the theoretical foundations of the analysis of their own activities to prevent professional mistakes; fully knows how to apply theoretical knowledge in work practice; owns all methods of analyzing his own activities to prevent professional mistakes.	Defense of the FQW (content of work, report, answers to questions from members of the state commission)
<b>GPC.11</b>	Readiness to use basic physical and	Knows the theoretical foundations of	Demonstrates knowledge of physical,	Defense of the FQW

	chemical, mathematical and other natural science concepts and methods in solving professional problems	physical and chemical, mathematical and other natural science concepts and methods; knows how to apply theoretical knowledge in the practice of pharmaceutical organizations; owns physical and chemical, mathematical and other natural science methods in solving professional problems	chemical, mathematical and other natural science concepts and methods in solving professional problems of drug circulation	(content of work, report, answers to questions from members of the state commission)
<b>GPC.17</b>	Ability to act in non-standard situations, to bear social and ethical responsibility for the decisions made	Knows the theoretical foundations of actions in non-standard situations; knows how to apply theoretical knowledge in the practice of pharmaceutical organizations; owns decision-making techniques, aware of social and ethical responsibility	Demonstrates knowledge and ability to make decisions and actions in non-standard situations, is able to apply his knowledge and skills in the practice of pharmaceutical organizations; owns decision-making techniques, aware of social and ethical responsibility	Defense of the FQW (content of work, report, answers to questions from members of the state commission)
<b>PC.20</b>	Willingness to participate in the implementation of new methods and techniques in the development, production and circulation of medicines;	Know the theoretical foundations for the introduction of new methods and techniques in the development, production and circulation of medicines; is able to apply theoretical knowledge about the methods and techniques of techniques in the field of development, production and circulation of medicines in the practice of pharmaceutical organizations; owns methods and techniques in the development, production and circulation of medicines	Demonstrates knowledge of the basics of introducing new methods and techniques in the development, production and circulation of medicines. Demonstrates the ability to use various methods and techniques in the development, production and circulation of medicines.	Defense of the FQW (content of work, report, answers to questions from members of the state commission)
<b>PC.21</b>	Ability to analyze and publicly present scientific pharmaceutical information	Knows the theoretical foundations of the analysis of scientific pharmaceutical information; knows how to apply theoretical knowledge about the analysis of scientific pharmaceutical information in the practice of pharmaceutical organizations; owns the methods and techniques of analysis and presentation of scientific pharmaceutical information	Uses the ability to conduct scientific research on a formulated topic and obtain and publicly present new scientific and applied results.	Defense of the FQW (content of work, report, answers to questions from members of the state commission)

## **Features of the state final certification for persons with disabilities**

For students from among the disabled and people with disabilities (persons with disabilities), SFC is carried out taking into account the characteristics of their psychophysical development, their individual capabilities and health status (hereinafter referred to as individual characteristics).

When conducting state final certification, the following general requirements are met:

- conducting state final certification for people with disabilities and people with disabilities in the same classroom together with students who are not disabled, if this does not create difficulties for people with disabilities and people with disabilities and other students when passing the state final certification;
- the presence in the classroom of an assistant (assistants) who provides students with disabilities and persons with disabilities with the necessary technical assistance, taking into account their individual characteristics (take a workplace, move around, read and complete the assignment, communicate with the chairman and members of the state examination committee);
- the use of technical means necessary for students with disabilities and persons with disabilities when passing the state final certification, taking into account their individual characteristics;
- ensuring the possibility of unimpeded access for students with disabilities in the classroom, toilet and other premises, as well as their stay in the specified premises (the presence of ramps, handrails, widened doorways, elevators, in the absence of elevators, the audience should be located on the first floor, the presence of special chairs and other devices).

All local regulations on the conduct of state final certification are brought to the attention of students with disabilities and persons with disabilities through the official website of the university.

At the written request of a student from among the disabled and persons with disabilities, the duration of the student's passing of the state certification test can be increased in relation to the established duration of its passing:

- the duration of the state examination, conducted in writing, - no more than 90 minutes;
- the duration of the preparation of a student for the answer to the state examination, held orally, is no more than 20 minutes;
- the duration of the student's speech during the defense of the final qualifying work - no more than 15 minutes.

Depending on the individual characteristics of students from among the disabled and persons with disabilities, the university ensures the fulfillment of the following requirements during the state certification test:

- a) for the visually impaired:
  - tasks and other materials for passing the state attestation test are issued in an enlarged font;
  - individual uniform illumination of at least 300 lux is provided;
  - if necessary, the students are provided with a magnifying device, it is allowed to use the magnifying devices available to the students;
- b) for the deaf and hard of hearing, with severe speech impairments:
  - the availability of sound-amplifying equipment for collective use is provided, if necessary, students are provided with sound-amplifying equipment for individual use;
  - at their request, state certification tests are carried out in writing;
- c) for persons with disorders of the musculoskeletal system (severe disorders of motor functions of the upper limbs or the absence of upper limbs):
  - written tasks are performed by students on a computer with specialized software or dictated to an assistant;
  - at their request, state certification tests are carried out orally.

A student from among the disabled and persons with disabilities, no later than 3 months



before the start of the state final certification, submits a written application to the dean's office of the faculty implementing the educational program on the need to create special conditions for him during state certification tests, indicating his individual characteristics.

The application is accompanied by documents confirming the student's individual characteristics. In the application, the student indicates the need (no need) for the presence of the assistant at the state certification test, the need (no need) to increase the duration of the state certification test in relation to the established duration (for each state certification test).

### **The procedure for filing and consideration of an appeal, change and (or) cancellation of the results of the SFA by university graduates**

To consider appeals based on the results of the state final attestation at PSU, an appeal commission is created, which operates during a calendar year. The rector of the university is approved as the chairman of the appeal committee. The Appeals Commission consists of a chairman and at least 3 commission members. The composition of the appeal commission is formed from the number of persons belonging to the teaching staff of PSU and not being part of the SEC.

According to the results of the state attestation test, the student has the right to submit a written appeal:

- about the violation, in his opinion, of the established procedure of the state attestation test;
- about disagreement with the results of the state certification test.

The appeal is filed personally by the students to the appeal commission no later than the next working day after the announcement of the results of the defense of the FQW.

To consider the appeal, the secretary of the SEC sends to the appeal commission the minutes of the meeting of the state examination commission, the conclusion of the chairman of the state examination commission on the observance of procedural issues during the state certification test, as well as written answers of the student (if any) (for consideration of the appeal for the state examination) and (or) the final qualifying work, feedback and review (reviews) (for consideration of the appeal for the defense of the final qualifying work).

The appeal is considered no later than 2 working days from the date of the appeal at the meeting of the appeal commission. The decision of the appeal commission is communicated to the student who filed the appeal within 3 working days from the date of the meeting of the appeal commission. The fact of familiarization of the student who has filed the appeal with the decision of the appeal commission is certified by the student's signature.

When considering an appeal about a violation of the procedure for conducting a state attestation test, the appeal commission makes one of the following decisions:

- to reject the appeal, if the information contained in it about violations of the procedure for conducting the state final attestation of a student has not been confirmed and (or) did not affect the result of the state attestation test;
- on the satisfaction of the appeal, if the information contained in it about the violations of the procedure for conducting the state final certification of the student was confirmed and influenced the result of the state certification test. In the latter case, the result of the appeal is transferred to the state examination commission no later than the next working day to implement the decision of the appeal commission. The student is given the opportunity to re-pass the state certification test within the time frame established by the University.

When considering an appeal on disagreement with the results of the state attestation test, the appeal commission makes one of the following decisions:

- on the rejection of the appeal and saving the result of the state certification test;
- on satisfying the appeal and setting another result of the state certification test. The decision of the appeal committee is final and not subject to revision.

Re-conducting the state certification test of the student who filed an appeal is carried out in the presence of the chairman or one of the members of the appeal commission no later

than the date of completion of the training. The term for the repeated state certification test is established by the chairman of the State Electricity Commission.

An appeal for a repeated state certification test is not accepted.

### **REPEAT STATE FINAL CERTIFICATION**

Students who have not passed the state attestation test due to failure to appear at the state attestation test for an unjustified reason, due to lack of admission or in connection with receiving an "unsatisfactory" grade, are expelled from the university with the issuance of a certificate of study as having failed to fulfill their obligations for the conscientious mastering of educational program and curriculum implementation.

In this case, the repeated passing of the SFA is possible no earlier than 10 months and no later than five years after the period of the state final certification. The student, at his request, is restored to Perm State National Research University for a period of time not less than that provided for in the calendar training schedule for the state final certification for the corresponding educational program. If it is necessary to defend the final qualifying work, the student is reinstated no later than 6 months before the date of the defense. In case of repeated defense of the FQW, at the request of the student, by the decision of the Academic Council of the Faculty, a different topic of the FQW may be established for him.

Repeated passage of the SFA is possible no more than two times.

ANNEXES

Attachment 1  
Sample FQW title page

MINISTRY OF SCIENCE AND HIGHER EDUCATION  
OF THE RUSSIAN FEDERATION  
Federal State Educational Institution of Higher Education  
«Perm State University»  
Faculty of Chemistry

*Department of Pharmacology and Pharmacy*

Final qualifying work on the topic:

**ANALYSIS AND WAYS TO IMPROVE THE PROCESS OF  
IMPLEMENTATION OF MEDICINES IN PARACELS, PERM**

Completed:

5th year student, specialty 33.05.01  
"Pharmacy"

Full Name

Scientific adviser:

degree, title

\_\_\_\_\_ Full Name  
signature

The work is admitted to  
protection

Head of the Department

Submission date

Protection date

Grade

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Perm, 20\_\_\_\_

**Sample form of the manager's recall for the FQW  
REVIEW  
of the head for the final qualifying work of the student**

**Group** \_\_\_\_\_  
**Specialty 33.05.01 Pharmacy** \_\_\_\_\_  
**Work theme** \_\_\_\_\_

**Final qualifying work completed in the amount of \_\_\_\_\_ pages.**  
**General characteristics of the final qualifying work**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Notes on the content and design of the work**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**General conclusions on the final qualifying work**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Assessment of the final qualifying work and the manager's opinion on admission to defense**

«\_\_\_\_\_» \_\_\_\_\_ 20\_\_ year.

**Scientific adviser**

**Full name** \_\_\_\_\_ **Signature** \_\_\_\_\_

**REVIEW**

**For the final qualifying work of the student** \_\_\_\_\_

**Specialty** 33.05.01 Pharmacy \_\_\_\_\_

**Work theme** \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

**Relevance of  
work** \_\_\_\_\_

**Scope and content of work** \_\_\_\_\_

\_\_\_\_\_

**Characteristics of work** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Registration of work** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Practical significance** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Disadvantages** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**General conclusion and assessment of the final qualifying work** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Reviewer** \_\_\_\_\_

(Full name, academic degree, position, place of work, signature, date)

Assessment funds funds for the SEC - an example of a state exam ticket

MINISTRY OF SCIENCE AND HIGHER EDUCATION  
OF THE RUSSIAN FEDERATION

Federal State Educational Institution of Higher Education  
«Perm State University"  
Faculty of Chemistry  
State qualification exam in the specialty  
**"Pharmacy"**

*A visitor turned to the pharmacy with a request to release Phenazepam tablets 0.1 mg No. 50. The specialist refused to let go, referring to the legal framework. On the refusal, the visitor made a scandal, promising to complain to the Russian Federal Service for Surveillance on Consumer Rights Protection and Human Wellbeing.*

1. Is the pharmacist right to refuse his request?
2. What normative act justifies its actions?
3. On what form, in accordance with this order, should this drug be prescribed?
4. Can a pharmacist release a part of the package (without a prescription and with a prescription)?
5. What are the actions of a specialist in the event of an incorrectly written prescription?

*When advising a patient on the issue of taking phenazepam 0.1 mg tablets, the specialist focuses on the fact that the drug should be taken with caution, provided that the patient's professional activity is associated with a high concentration of attention.*

1. What are the reasons for such features when taking this drug?
2. What are the main side effects from the use of phenazepam and what are the reasons?
3. What possible adverse drug interactions should the patient pay attention to?

*When dispensing phenazepam 0.1 mg tablets to the patient, according to the prescribed prescription, a specialist advised him about the peculiarities of taking dispersible tablets.*

1. What is the difference between dispersible tablets and other types of tablets in terms of their production technology?
2. What groups of excipients are used in the production of dispersible tablets and what is their purpose?
3. By what quality indicators, in accordance with the regulatory documents, are tablets and methods for their determination evaluated?

*In the quality control department of pharmaceutical manufacturing enterprises, the pharmacist-analyst analyzed Phenazepam 0.1 mg tablets No. 50 according to the sections of the regulatory document "Authenticity" and "Foreign impurities" by high-performance liquid chromatography.*

1. What indicator does a specialist use to assess authenticity and what is its physical meaning?
2. How did the pharmacist determine (or absence) of impurities? What methods of assessing this indicator exist in the method of high performance liquid chromatography?

*The patient, together with a prescription drug, purchased medicinal herbal raw materials from the pharmacy - valerian medicinal rhizome with roots, 20 filter bags.*

1. Can a patient independently at home prepare a dosage form from medicinal raw materials, and which one?
2. What drugs from this type of materials were used by the patient? What other drugs are made from raw materials of Valerian officinalis?
3. What other types of raw materials can be offered to the patient, provided that there is no raw material for Valerian officinalis in the pharmacy?