Ministry of Agriculture of the Russian Federation
Federal State Budgetary Educational Institution
of Higher Education
St. Petersburg State University of Veterinary Medicine"

APPROVED BY
Vice-Rector for Educational
Work and Youth Policy
_____ Sukhinin A.A.
May 6, 2024

Department of Internal Diseases of animals named after A. V. Sinev

EDUCATIONAL WORK PROGRAM

for the discipline

"CARDIOLOGY"

The level of higher education
SPECIALIST COURSE

Specialty 36.05.01 Veterinary Medicine
Full-time education
Education starts in 2024

Reviewed and adopted
at the meeting of the department
on May 2, 2024.
Protocol No. 9

Head of the Department of Internal
Diseases of Animals named after Sinev A.V.
Doctor of Veterinary Sciences,
_____ Associate Professor A.V. Prusakov

Saint Petersburg
2024

1. AIMS AND OBJECTIVES OF THE DISCIPLINE "INTERNAL NON-COMMUNICABLE DISEASES"

The academic discipline FTD.03 "Cardiology" is intended for students of veterinary medicine. In accordance with the purpose, the main purpose of the discipline is that, in accordance with the qualification characteristics of a veterinarian, to teach students modern rules and methods for providing emergency care to pets in case of complications related to the implementation of veterinary measures.

Based on the goal, the following tasks are solved in the process of studying the discipline:

1. To study the main cardiological diseases of animals and their clinical manifestation; congenital heart defects; general and special methods of research of the cardiovascular system; basic treatment regimens and methods of prevention of cardiac diseases.

2. Be able to diagnose diseases of the cardiovascular system; correctly prescribe treatment to animals with pathology and develop prevention schemes.

3. To master modern methods of laboratory and instrumental diagnostics, treatment and prevention schemes for sick animals.

2. THE LIST OF THE PLANNED RESULTS OF THE DISCIPLINE (MODULE), CORRELATED WITH THE PLANNED RESULTS OF THE REALISED EDUCATIONAL PROGRAM

As a result of mastering the discipline, the student prepares for the following types of activities, in accordance with the educational standard of the FSE on 05.36.01 "Veterinary Medicine".

The field of professional activity:

13 Agriculture

01 Education and Science

Types of tasks of professional activity:

- Medical.

2.1. The student's competencies formed (acquired) as a result of mastering the discipline

The study of the discipline should form the following competencies:

a) professional competencies (PC):

- Development of an animal research program and conduction of clinical study, using special (instrumental) and laboratory methods to clarify the diagnosis **(PC-2);**
- To set the diagnose based on the analysis of anamnesis, general, special (instrumental) and laboratory research methods **(PC -3).**

The planned results of the development of competencies, taking into account professional standards

Index	Content
PC-2	Development of an animal research program and conduction of clinical study, using special (instrumental) and laboratory methods to clarify the diagnosis
PC-2 ID-1	To be able to study animals, using digital equipment and special (instrumental) methods, including endoscopy, probing, catheterization, radiography, electro cardiography, echography
PC-2 ID-2	To be able to interpret and analyze data from special (instrumental) animal research methods to verify the diagnosis
PC-2 ID-3	To be able to determine the reaction of the cardiovascular system of animals to various loads by the method of functional tests
PC-2 ID-6	To be able to interpret and analyze data from laboratory animal research methods for diagnosis

PC-2 ID - 7	To know the indication for the use of digital equipment, special (instrumental) and laboratory methods of animal research in accordance with the guidelines, instructions, rules for the diagnosis, prevention and treatment of animals
PC-2 ID - 9	To possess skills of the technique of the animal study, using digital equipment and special (instrumental) methods in accordance with methodological guidelines, instructions, rules for the diagnosis, prevention and treatment of animals
PC-2 ID -11	To possess skills of the technique of setting functional tests for animals
PC-3	To set the diagnose based on the analysis of anamnesis, general, special (instrumental) and laboratory research methods
PC-3 ID -1	To possess skills to make a diagnosis in accordance with generally accepted criteria and classifications, lists of animal diseases
PC-3 ID -2	To possess skills to use specialized information databases for the diagnosis of animal diseases
PC-3 ID -3	To possess skills to document the results of clinical animal studies, using digital technologies
PC-3 ID -4	To know the methods of interpretation and data analysis of special (instrumental) methods of animal examination
PC-3 ID -6	To know the etiology and pathogenesis of animal diseases of various species
PC-3 ID -7	To know the generally accepted criteria and classifications of animal diseases, approved lists of animals disease

3. THE PLACE OF DISCIPLINE IN THE STRUCTURE OF THE MPEP

The discipline FTD.03 "Cardiology" is an optional part of the federal state educational standard of higher education in the specialty 36.05.01 "Veterinary Medicine".

It is mastered in the 10th semester of the 5th year on a full-time basis, in the 12th semester of full-time and part-time education.

When studying the discipline "Cardiology", the knowledge and skills acquired by students during the development of the disciplines of anatomy, histology and embryology, biochemistry, physiology, feeding, pathological physiology, pathological anatomy and forensic veterinary examination, clinical diagnostics, pharmacology and toxicology, parasitology and epizootology are used.

4. THE SCOPE OF DISCIPLINE AND TYPES OF ACADEMIC WORK

4.1. The scope of the discipline for full-time education

Type of educational work	Hours	Semesters
		10
Classroom classes (total)	**27**	**27**
Including:	-	-
Lectures, including interactive forms	**9**	**9**
Practical (PP), including interactive forms, among which are:	**18**	**18**
practical training (PT)	4	4
Self-study	**45**	**45**
Type of intermediate and final certification (credit, exam)	Credit, exam	Credit
Total labor intensity hours/credits	**72**	**72/2**

5. THE CONTENT OF THE DISCIPLINE AND TYPES OF CLASSES

№	Name Practical and lecture classes (7th semester)	Emerging competencies	Term	Types of academic work, including students' independent work and labor intensity (in hours)			
				lectures	practical exercises	practical training	independent work
1.	Introduction to cardiology. The history of the development of cardiology. The structure of the circulatory system. Topography of the heart, properties of the heart muscle. Anatomical and physiological features of the cardiovascular system. The topography of the heart in various animal species.	PK-2 (PK-2ID-1, PK-2ID-2, PK-2ID-3, PK-2ID-6, PK-2ID-7, PK-2ID-9) PK-3 (PK-3ID-1, PK-3ID-2, PK-3ID-3, PK-3ID-4, PK-3ID-6, PK-3ID-7)	10	1	1	1	4
2.	Electrocardiography. Bioelectric basis of ECG recording. The nature of the main teeth, intervals and segments of the ECG. Bioelectric basis of ECG recording. Equipment and devices. The technique of ECG. Recording an electrocardiogram. ECG analysis.	PK-2 (PK-2ID-1, PK-2ID-2, PK-2ID-3, PK-2ID-6, PK-2ID-7, PK-2ID-9) PK-3 (PK-3ID-1, PK-3ID-2, PK-3ID-3, PK-3ID-4, PK-3ID-6, PK-3ID-7)	10	1	2	-	8

3.	Changes in the rhythm of cardiac activity. The concept of internal deviation time, the excitation vector. Electrocardiographic leads. Determination of the heart rate and the electrical axis of the heart. Recording an electrocardiogram. ECG analysis.	PK-2 (PK-2ID-1, PK-2ID-2, PK-2ID-3, PK-2ID-6, PK-2ID-7, PK-2ID-9) PK-3 (PK-3ID-1, PK-3ID-2, PK-3ID-3, PK-3ID-4, PK-3ID-6, PK-3ID-7)	10	1	1	1	6
4.	Conduction disturbances. Arrhythmias. ECG diagnosis of extrasystole. Recording an electrocardiogram. ECG analysis.	PK-2 (PK-2ID-1, PK-2ID-2, PK-2ID-3, PK-2ID-6, PK-2ID-7, PK-2ID-9) PK-3 (PK-3ID-1, PK-3ID-2, PK-3ID-3, PK-3ID-4, PK-3ID-6, PK-3ID-7)	10	1	2	-	4
5	Electrocardiographic leads: standard, unipolar, thoracic. The location of the electrodes. "Right" and "left" leads.	PK-2 (PK-2ID-1, PK-2ID-2, PK-2ID-3, PK-2ID-6, PK-2ID-7, PK-2ID-9) PK-3 (PK-3ID-1, PK-3ID-2, PK-3ID-3, PK-3ID-4, PK-3ID-6, PK-3ID-7)	10	1	2	-	4
6.	ECG changes in various pathologies. ECG changes in myocardial pathologies. ECG changes in electrolyte disorders and other heart diseases.	PK-2 (PK-2ID-1, PK-2ID-2, PK-2ID-3, PK-2ID-6, PK-2ID-7, PK-2ID-9) PK-3 (PK-3ID-1, PK-3ID-2, PK-3ID-3, PK-3ID-4, PK-3ID-6, PK-3ID-7)	10	1	1	1	6
7.	Electrocardiography in pericardial pathology. Acute heart failure (pulmonary edema, interstitial pulmonary edema, cardiogenic shock).	PK-2 (PK-2ID-1, PK-2ID-2, PK-2ID-3, PK-2ID-6, PK-2ID-7, PK-2ID-9) PK-3 (PK-3ID-1, PK-3ID-2, PK-3ID-3, PK-3ID-4, PK-3ID-6, PK-3ID-7)	10	2	1	1	5

8.	Basics of echocardiography. Ultrasound cardiography. Phonocardiography. Functional tests of the heart.	PK-2 (PK-2ID-1, PK-2ID-2, PK-2ID-3, PK-2ID-6, PK-2ID-7, PK-2ID-9) PK-3 (PK-3ID-1, PK-3ID-2, PK-3ID-3, PK-3ID-4, PK-3ID-6, PK-3ID-7)	10	1	2	-	5
9.	Pharmacological agents from the group of cardiac drugs and their use in veterinary practice. Complications associated with the use of cardiac drugs, their prevention and elimination.	PK-2 (PK-2ID-1, PK-2ID-2, PK-2ID-3, PK-2ID-6, PK-2ID-7, PK-2ID-9) PK-3 (PK-3ID-1, PK-3ID-2, PK-3ID-3, PK-3ID-4, PK-3ID-6, PK-3ID-7)	10	1	2	-	3
14.	TOTAL: **72**			**9**	**14**	**4**	**45**

6. THE LIST OF EDUCATIONAL AND METHODOLOGICAL SUPPORT FOR STUDENTS' SELF WORK

6.1. Guidelines for independent work

1 . Gerunova, L. K. Physiology of the cardiovascular system and drug regulation of its functions in animals/ St. Petersburg. "Lan". - 2013. – 28c. (date of application: 04/27/2024).

2. Kulyakov, G.V. Medical examination of farm animals: Methodological recommendations for students of the 4th- 5th year of the full-time and correspondence Faculty of Veterinary Medicine, veterinarians of the Faculty of Advanced Training / Kulyakov G. V.; SPbGAVM. – St. Petersburg: SPbGAVM. 2012. – 19 p. – URL: https://clck.ru/ebtjN (accessed 04/27/2024).

6.2. Literature for independent work

1. Dictionary of veterinary terms on clinical diagnosis and internal non-infectious diseases: Textbook / Korobov A.V., Savinkov A.V., Vorobyov A.V. [et al.]. – St. Petersburg: Lan Publishing House, 2007. – 320 p. - (Textbooks for universities. Special literature).

2. Handbook of a veterinary therapist: textbook / G. G. Shcherbakov, N. V. Danilevskaya, S. V. Starchenkov [et al.]. - 5th ed., ispr. and add. – St. Petersburg: Lan. – 2021. – 656 p. – URL: https://e.lanbook.com/book/167796 (accessed 04/27/2024).

3. Non–infectious diseases of dogs and cats / Lebedev A.V., Starchenkov S. V., Khokhrin S. N., Shcherbakov G. G. - St. Petersburg: Giord. – 2000. – 294 p.: ill.

4. Internal diseases of animals / Edited by G. G. Shcherbakov, A.V. Korobov. – Moscow: Lan. – 2002. – 736 p. - (Textbooks for universities. Special literature).

5. Workshop on internal diseases of animals / edited by G. G. Shcherbakov, A.V. Korobov. – St. Petersburg [et al.]: Doe. – 2003. – 544 p.: ill. - (Textbooks for universities. Special literature).

7. THE LIST OF BASIC AND ADDITIONAL LITERATURE NECESSARY FOR THE EDUCATION OF THE DISCIPLINE

7.1. Basic literature

1. Internal diseases of animals / edited by G. G. Shcherbakov, A.V. Korobov. - Moscow: Lan, 2002. – 736 p. - (Textbooks for universities. Special literature).

2. Internal diseases of animals: textbook for universities / G. G. Shcherbakov, A.V. Yashin, A. P. Kurdeko [et al.]; under the general editorship of G. G. Shcherbakov [et al.]. - 5th ed., erased. - St. Petersburg: Lan. – 2021. – 716 p. – URL: https://e.lanbook.com/book/159528 (date of application: 04/27/2024).

3. Workshop on internal diseases of animals / Edited by G.G. Shcherbakov, A.V. Korobov. – St. Petersburg: Lan. – 2003. – 544 p.: ill. – (Textbooks for universities. Special literature).

4. Workshop on internal diseases of animals: textbook / G. G. Shcherbakov [et al.]; under the general editorship of G. G. Shcherbakov [et al.]. – 3rd ed., erased. – St. Petersburg: Lan, 2020. – 544 p. – URL: https://e.lanbook.com/book/139263 (accessed 04/27/2024).

7.2. Additional literature

1. Prevention of non-communicable diseases of productive animals: method. the manual / comp.: A.V. Yashin [et al.]; SPbGAVM. – St. Petersburg: SPbGAVM. – 2016. – 35 p. – URL: https://clck.ru/ebvtk (date of application 04/27/2024).

2. Non-infectious pathology of cattle in farms with industrial technology: textbook / A.V. Yashin, G. G. Shcherbakov, I. I. Kalyuzhny [et al.]; under the general editorship of A.V. Yashin. – St. Petersburg: Lan. – 2019. – 2020 p. – URL: https://e.lanbook.com/book/125722 (date of application: 04/27/2024).

8.THE LIST OF RESOURCES OF THE INFORMATION AND TELECOMMUNICATION NETWORK "INTERNET" NECESSARY FOR EDUCATION OF THE DISCIPLINE

To prepare for laboratory classes and perform self-work, students can use the following online resources:

Electronic library systems

1. ELS "SPBGUVM"
2. ELS "Lan Publishing House"
3. Legal reference system "ConsultantPlus"
4. University information system "RUSSIA"
5. Full-text database POLPRED.COM
6. Scientific electronic Library ELIBRARY.RU
7. Russian Scientific Network
8. Database of international scientific citation indexes Web of Science
9. Scopus database of International Science Citation Indexes
10. Full-text interdisciplinary database on agricultural and environmental sciences ProQuest AGRICULTURAL AND ENVIRONMENTAL SCIENCE DATABASE
11. Electronic books of the publishing house "Prospekt Nauki" http://prospektnauki.ru/ebooks/
12. Collection "Agriculture. Veterinary medicine" publishing house "Quadro" ELS "Elibris" publishing house "Quadro" https://elibrica.com/

9. METHODOLOGICAL GUIDELINES FOR STUDENTS ON EDUCATION OF THE DISCIPLINE

Methodological recommendations for students are a set of recommendations and explanations that allow the student to optimally organize the process of studying this discipline.

The content of the methodological recommendations, as a rule, may include:

• Tips on planning and organizing the time needed to study the discipline. Description of the sequence of actions of the student, or the "scenario of studying the discipline".

Morning time is the most fruitful for academic work (from 8-14 o'clock), followed by afternoon time (from 16-19 o'clock) and evening time (from 20-24 o'clock). The most difficult material is recommended to be studied at the beginning of each time interval after rest. After 1.5 hours of work, a break is required (10-15 minutes), after 4 hours of work, the break should be 1 hour. Part of the scientific organization of labor is the mastery of the technique of mental labor. Normally, a student should devote about 10 hours a day to studying (6 hours at university, 4 hours at home).

• Recommendations for working with literature.

Working with literature is an important stage of the student's independent work on mastering the subject, contributing not only to the consolidation of knowledge, but also to the expansion of horizons, mental abilities, memory, the ability to think, express and confirm their

hypotheses and ideas. In addition, the skills of research work necessary for further professional activity are being developed.

When starting to study the literature on the topic, it is necessary to make notes, extracts, notes. It is mandatory to take notes of the works of theorists, which allow us to comprehend the theoretical basis of the study. For the rest, you can limit yourself to extracts from the studied sources. All extracts and quotations must have the exact "return address" (author, title of the work, year of publication, page, etc.). It is advisable to write an abbreviated title of the question to which the extract or quotation refers. In addition, it is necessary to learn how to immediately compile a file of special literature and publications of sources, both proposed by the teacher and identified independently, as well as refer to bibliographic reference books, chronicles of journal articles, book chronicles, abstract journals. At the same time, publications of sources (articles, book titles, etc.) should be written on separate cards, which must be filled in according to the rules of bibliographic description (surname, initials of the author, title of the work. Place of publication, publisher, year of publication, number of pages, and for journal articles – the name of the journal, year of publication, page numbers). On each card, it is advisable to record the thought of the author of the book or a fact from this book on only one specific issue. If the work, even in the same paragraph or phrase, contains more judgments or facts on another issue, then they should be written out on a separate card. The presentation should be concise, accurate, without subjective assessments. On the back of the card, you can make your own notes about this book or article, its content, structure, on which sources it is written, etc.

• Explanations about working with control and test materials for the course, recommendations for completing homework.

Testing allows you to determine whether the actual behavior of the program corresponds to the expected one by performing a specially selected set of tests. A test is the fulfillment of certain conditions and actions necessary to verify the operation of the function under test or part of it. Each question in the discipline must be answered correctly by choosing one option.

• Recommendations for the implementation of course work (if it is assumed by the curriculum), defining their thematic focus, goals and objectives of implementation, requirements for the content, volume, design and organization of guidance for their preparation by departments and teachers.

According to the guidelines provided in the list of guidelines.

10. EDUCATIONAL SOCIAL WORK

As part of the implementation of the discipline, educational work is carried out to form a modern scientific worldview and a system of basic values, the formation and development of spiritual and moral, civil and patriotic values, a system of aesthetic and ethical knowledge and values, attitudes of tolerant consciousness in society, the formation of students' need for work as the first vital necessity, the highest value and the main way to achieve success in life, to realize the social significance of your future profession.

11. THE LIST OF INFORMATION TECHNOLOGIES USED IN THE IMPLEMENTATION OF THE EDUCATIONAL PROCESS

11.1 Information technologies

For the educational process of the discipline is previewed the use of information technologies:

- practical classes using multimedia;
- interactive technologies (dialogues, collective discussion on various topics for realization a particular educational and professional task);
- interaction with students via e - mail;
- community work in the electronic information and educational environment of St. Petersburg State University: https://spbguvm.ru/academy/eios/

11.2. Software
The list of licensed and free- distributed software, including national programs

№ п/п	Technical and computer programs recommended by sections and topics of the program	License
1	MS PowerPoint	67580828
2	LibreOffice	free software
3	OS Alt Education	AAO.0022.00
4	ABIS " MARK-SQL"	02102014155
5	MS Windows 10	67580828
6	System Consult Plus	503/КЛ
7	Android OS	free software

12. THE MATERIAL AND TECHNICAL BASE NECESSARY FOR THE IMPLEMENTATION OF THE DISCIPLINE EDUCATIONAL PROCESS.

No. p / p	The name of the subject, discipline (module) in accordance with the curriculum	The name of equipped lecture halls with a list of basic equipment	The actual address of classrooms and facilities
1	Cardiology	1.Study rooms 102,103,104,107 Educational furniture: seats according to the number of students; teacher's workplace; cabinets, stands, multimedia projector, laptop. 2. Specialized tools: probes: Khokhlova, oral-gastric for large and small animals, magnetic: Meliksetyana, Korobova (ZMU-1); ultrasound diagnostic apparatus; metal indicator; magnetic rings; fixation materials (ropes, bandages, muzzles, yawners, Garms forceps, Bayer wedge, mouth, etc.); syringes: 1.0; 2,0; 5,0; 10,0; 20,0; 50,0; 100,0; 250,0 ml; injection needles, needles for blood collection; gloves; bathrobes;; syringes, Esmarch mugs for enemas; sets for compresses; cotton wool; bandages; funnels; urinary catheters; trocars small and large; electrocardiograph "Baby". 108. Laboratory: laboratory equipment and reagents for the study of blood, urine, feces according to the methods, simulators for practicing manipulations	St. Petersburg, Chernihiv str., 5, Department of Internal Diseases of Animals named after Sineva A.V.

Developers:

Head of the Department of Internal Diseases of Animals named after Sinev A.V. Doctor of Veterinary Sciences — Prusakov A.V.

Candidate of Veterinary Sciences, Assistant of the Department — Golodyaeva M.S.

Annex 1

Ministry of Agriculture of the Russian Federation
Federal State Budgetary Educational Institution
of higher education
"Saint Petersburg State University of Veterinary Medicine"

Department of Internal Diseases of animals named after A. V. Sinev

FUND OF ASSESMENT TOOLS
for the discipline
"CARDIOLOGY"

Level of higher education
SPECIALIST COURSE

Specialty 36.05.01 Veterinary medicine
Full-time education.

Education starts in 2024.

Saint Petersburg
2024

1. PASSPORT OF THE FUND OF ASSESMENT TOOLS

Table 1

Index	Content
PC-2	Development of an animal research program and conduction of clinical study, using special (instrumental) and laboratory methods to clarify the diagnosis
PC-2 ID -1	To be able to study animals, using digital equipment and special (instrumental) methods, including endoscopy, probing, catheterization, radiography, electro cardiography, echography
PC-2 ID -2	To be able to interpret and analyze data from special (instrumental) animal research methods to verify the diagnosis
PC-2 ID -3	To be able to determine the reaction of the cardiovascular system of animals to various loads by the method of functional tests
PC-2 ID -6	To be able to interpret and analyze data from laboratory animal research methods for diagnosis
PC-2 ID -7	To know the indication for the use of digital equipment, special (instrumental) and laboratory methods of animal research in accordance with the guidelines, instructions, rules for the diagnosis, prevention and treatment of animals
PC-2 ID -9	To possess skills of the technique of the animal study, using digital equipment and special (instrumental) methods in accordance with methodological guidelines, instructions, rules for the diagnosis, prevention and treatment of animals
PC-2 ID -11	To possess skills of the technique of setting functional tests for animals
PC-3	To set the diagnose based on the analysis of anamnesis, general, special (instrumental) and laboratory research methods
PC-3 ID -1	To possess skills to make a diagnosis in accordance with generally accepted criteria and classifications, lists of animal diseases
PC-3 ID -2	To possess skills to use specialized information databases for the diagnosis of animal diseases
PC-3 ID -3	To possess skills to document the results of clinical animal studies, using digital technologies
PC-3 ID -4	To know the methods of interpretation and data analysis of special (instrumental) methods of animal examination
PC-3 ID -6	To know the etiology and pathogenesis of animal diseases of various species
PC-3 ID -7	To know the generally accepted criteria and classifications of animal diseases, approved lists of animals disease

An approximate list of evaluation tools

Table 2

№	Name of the evaluation tool	Brief description of the evaluation tool	Presentation of an evaluation tool in the fund
1.	Tests	A system of standardized tasks that allows you to automate the procedure for measuring the level of knowledge and skills of a student	The fund of test tasks
2.	Credit	A means of monitoring the assimilation of educational material per semester	Questions on topics/sections of the discipline

List of assessment tools

№	Emerging competencies	Supervised sections (topics) of the discipline	Evaluation tool
1.	PC-2 (PC-2ID-1, PC-2ID-2, PC-2ID-3, PC-2ID-6, PC-2ID-7, PC-2ID-9) PC-3 (PC-3ID-1, PC-3ID-2, PC-3ID-3, PC-3ID-4, PC-3ID-6, PC-3ID-7)	Introduction to cardiology. The history of the development of cardiology. The structure of the circulatory system. Topography of the heart, properties of the heart muscle. Anatomical and physiological features of the cardiovascular system. The topography of the heart in various animal species.	Test
2.		Electrocardiography. Bioelectric basis of ECG recording. The nature of the main teeth, intervals and segments of the ECG. Bioelectric basis of ECG recording. Equipment and devices. The technique of ECG. Recording an electrocardiogram. ECG analysis.	Test
3.		Changes in the rhythm of cardiac activity. The concept of internal deviation time, the excitation vector. Electrocardiographic leads. Determination of the heart rate and the electrical axis of the heart. Recording an electrocardiogram. ECG analysis.	Test
4.		Conduction disturbances. Arrhythmias. ECG diagnosis of extrasystole. Recording an electrocardiogram. ECG analysis.	Test
5.		Electrocardiographic leads: standard, unipolar, thoracic. The location of the electrodes. "Right" and "left" leads.	Test
6.		ECG changes in various pathologies. ECG changes in myocardial pathologies. ECG changes in electrolyte disorders and other heart diseases.	Test
7.		Electrocardiography in pericardial pathology. Acute heart failure (pulmonary edema, interstitial pulmonary edema, cardiogenic shock).	Test
8.		Basics of echocardiography. Ultrasound cardiography. Phonocardiography. Functional tests of the heart.	Test
9.		Pharmacological agents from the group of cardiac drugs and their use in veterinary practice. Complications associated with the use of cardiac drugs, their prevention and elimination.	Test

2. INDICATORS AND CRITERIA FOR ASSESSING COMPETENCIES AT VARIOUS STAGES OF ITS FORMATION, DESCRIPTION OF ASSESSMENT SCALES

Planned results of competence development	The level of development				Evaluation tool
	Unsatisfactory	satisfactory	good	excellent	
• **PC-2. Development of an animal research program and conduction of clinical study, using special (instrumental) and laboratory methods to clarify the diagnosis**					
PC-2 ID -1 To be able to study animals, using digital equipment and special (instrumental) methods, including endoscopy, probing, catheterization, radiography, electro cardiography, echography **PC-2 ID -2** To be able to interpret and analyze data from special (instrumental) animal research methods to verify the diagnosis **PC-2 ID -3** To be able to determine the reaction of the cardiovascular system of animals to various loads by the method of functional tests **PC-2 ID -6** To be able to interpret and analyze data from laboratory animal research methods for diagnosis **PC-2 ID -7** To know the indication for the use of digital equipment, special (instrumental) and laboratory methods of animal research in accordance with the guidelines, instructions, rules for the diagnosis,	The level of knowledge is below the minimum requirements, gross errors have occurred	The minimum acceptable level of knowledge, many blunders have been made	The level of knowledge in the volume corresponding to the training program, several blunders were made	The level of knowledge in the volume corresponding to the training program, without errors	Colloquium, tests, situational tasks

prevention and treatment of animals **PC-2 ID -9** To possess skills of the technique of the animal study, using digital equipment and special (instrumental) methods in accordance with methodological guidelines, instructions, rules for the diagnosis, prevention and treatment of animals **PC-2 ID -11** To possess skills of the technique of setting functional tests for animals					
• **PC-3. To set the diagnose based on the analysis of anamnesis, general, special (instrumental) and laboratory research methods**					
PC-3 ID-1 **To possess skills to** make a diagnosis in accordance with generally accepted criteria and classifications, lists of animal diseases. **PC-3 ID-2** **To possess skills to** use specialized information databases for the diagnosis of animal diseases **PC-3 ID-3** **To possess skills to** document the results of clinical animal studies, using digital technologies. **PC-3 ID-4** **To know** the methods of interpretation and data analysis of special (instrumental) methods of animal examination.	Basic skills were not demonstrated when solving standard tasks, and gross errors occurred	Basic skills have been demonstrate, typical tasks with minor errors have been solved, all tasks have been completed, but not in full	All the basic skills have been demonstrate, all the main tasks with minor errors have been solved, all the tasks have been completed in full, but some with flaws	All basic skills have been demonstrate, all basic tasks have been solved with some minor flaws, and all tasks have been completed in full	Colloquium, tests, control work

PC-3 ID-6 **To know** the etiology and pathogenesis of animal diseases of various species. **PC-3 ID-7** **To know** the generally accepted criteria and classifications of animal diseases, approved lists of animals disease.					

3. A LIST OF CONTROL TASKS AND OTHER MATERIALS, NECESSARY FOR THE ASSESSMENT OF KNOWLEDGE, SKILLS AND WORK EXPERIENCE

3.1. Test questions

Emerging competencies: PC-2 Development of an animal research program and conduction of clinical study, using special (instrumental) and laboratory methods to clarify the diagnosis

PC-2 ID -1 To be able to study animals, using digital equipment and special (instrumental) methods, including endoscopy, probing, catheterization, radiography, electro cardiography, echography

1. What is the most common form of cardiomyopathy?
a. dilated
b. hypertrophic
c. restrictive
d. arrhythmogenic dysplasia of the right ventricle
2. Which drugs are not used to treat dilated cardiomyopathy:
a. cardiac glycosides
b. beta-blockers
c. ACE inhibitors
d. calcium antagonists
3. What is the most common cause of hypertrophic cardiomyopathy?
a. genetic mutation
b. aortic stenosis
c. viruses or bacteria
d. the cause is not known
4. What is the name of the process of recording the electrical activity of the heart?
a. ecg
b. echocardiography
c. coronaroventriculography
d. myocardial biopsy
5. What processes underlie the development of secondary cardiomyopathies?
a. myocardial hypertrophy
b. myocardial necrosis
c. myocardial dystrophy
d. inflammation
6. Inflammation of the heart muscle is:
a. pericarditis
b. myocarditis
c. endocarditis
d. dropsy of the cardiac chemise

PC-2 ID-2 To be able to interpret and analyze data from special (instrumental) animal research methods to verify the diagnosis

7. What is the most common cause of myocarditis?
a. viral infection
b. bacterial infection
c. atherosclerosis of the coronary arteries
d. parasitic invasion
8. What rhythm disturbances on the ECG are recorded in myocarditis?

a. AV blockade
b. extrasystole
c. WPW syndrome
d. Morgagni-Adams-Stokes syndrome
9. Which method is the most informative for the diagnosis of myocarditis?
a. biochemical bloodtest
b. MRI
c. physical activity test
d. chest x-ray
10. What kind of conduction disorder can myocarditis lead to?
a. CA-blockade
b. ventricular extrasystole
c. blockage of the legs of the Gis bundle
d. atrial fibrillation
11. How can the left atrium be characterized?
a. the outer surface is completely covered by the pericardium
b. there are two groups of papillary muscles
c. at the entrance to the cavity are the mouths of the pulmonary veins
d. there are areas of the outer wall that are not covered by the pericardium
12. What is the name of inflammation of the pericardium?
a. myocarditis
b. endocarditis
c. ulcerative endocarditis
d. pericarditis
13. Which organs are characterized by a high degree of development of blood circulation collateralization?
a. lungs, liver
b. heart, kidneys
c. kidneys, gallbladder
d. Lungs, kidneys

PC-2 ID-3 To be able to determine the reaction of the cardiovascular system of animals to various loads by the method of functional tests
14. What change in cardiomyocytes does not indicate their damage?
a. increased activity of oxidative phosphorelation
b. accumulation of calcium ions in the cell
c. decrease in cell pH
d. increase in cell pH
15. In infectious endocarditis, the valves are more often affected:
a. pulmonary artery valve
b. aortic valve
c. mitral valve
d. tricuspid
16. In the treatment of infectious endocarditis, the most effective are:
a. nonsteroidal anti-inflammatory drugs
b. corticosteroids
c. cytostatics
d. antibiotics
17. What is the prognosis for bovine pericardium?
a. more often unfavorable

b. favorable
c. cautious
d. more often favorable
18. What will be the blood pressure in myocardosis?
a. arterial is lowered, venous is elevated
b. both arterial and venous are elevated
c. arterial is elevated, venous is lowered
d. both arterial and venous are lowered
19. What pathology of heart tones is not present?
a. bifurcation
b. gallop rhythm
c. cleavage
d. crepitation
20. Which heart murmurs are intracardial?
a. organic
b. pericardial
c. pleuropericardial
d. cardiopulmonary
21. What drugs are not used in the treatment of hypertrophic cardiomyopathy?
a. beta blockers
b. peripheral vasodilators
c. cardiac glycosides
d. diuretics
22. What is shown in acute expansion of the heart?
a. intense stress
b. heat on the heart
area c. rest
d. an increase in the amount of fats in the diet
23. What is another name for a tricuspid valve?
a. mitral
b. triple
c. tricuspid
d. pulmonate

PC-2 ID-6 To be able to interpret and analyze data from laboratory animal research methods for diagnosis

24. What are the names of the blood vessels flowing into the atria?
a. arteries
b. capillaries
c. venules
d. veins
25. What do semilunar valves provide?
a. unilateral blood movement
b. retrograde blood movement
c. vascular blockage
d. dystrophy
26. What characterizes the PQ interval on the ECG?
a. ventricular complex
b. atrial complex
c. diastole

d. extrasystole
27. What characterizes the TR segment on the ECG?
a. ventricular complex
b. atrial complex
c. diastole
d. extrasystole
28. Which of the symptoms is noted in the initial stage of the disease in the acute course of cardiovascular insufficiency?
a. an increase in body temperature
b. cyanosis
c. jaundice
d. diarrhea
29. Does body temperature rise with myocardosis?
a. in the acute period, it rises
b. it rises only with chronic course
c. within the normal range
d. always below the norm
30. What is dilatacio cordis?
a. inflammation of the mucous membrane of the trachea
b. enlargement of the heart
c. heart defects
d. arrhythmias
31. Who is the author of the classification of diseases of the cardiovascular system?
a. Botkin
b. Chervyakov
c. Domrachev
d. Evgrafov

PC-2 ID-7 To know the indication for the use of digital equipment, special (instrumental) and laboratory methods of animal research in accordance with the guidelines, instructions, rules for the diagnosis, prevention and treatment of animals

32. In which areas of the body do edema primarily develop in cardiovascular insufficiency?
a. in the area of the eyelids
b. in the area of the submandibular space and peritoneum
c. in the pelvis and groin
d.area d. in the withers area
33. Are edema symptoms of cardiovascular insufficiency?
a. yes
b. no
c. partially
d. only with myocarditis
34. Which of the listed diseases is not a pericardial disease?
a. dropsy of the cardiac chemise
b. myocardiodegeneration
c. hydropericarditis
d. pericarditis
35. What phase is missing in the cardiac cycle?
a. atrial systole and ventricular diastole
b. atrial diastole and ventricular systole

c. general systole
d. general diastole

PC-2 ID-9 To possess skills of the technique of the animal study, using digital equipment and special (instrumental) methods in accordance with methodological guidelines, instructions, rules for the diagnosis, prevention and treatment of animals

36. In what disease is it possible to increase the boundaries of the heart?
a. myocardosis
b. traumatic reticulopericarditis
c. endocarditis
d. myocarditis

PC-2 ID-11 To possess skills of the technique of setting functional tests for animals

37. What is the pulse of cattle (beats/min)?
a. 70-80
b. 60-90
c. 110-130
d. 50-80
38. What is the pulse of a pig (beats/min)?
a. 70-80
b. 60-90
c. 110-130
d. 50-80
39. What is the pulse rate of cats (beats/min)?
a. 70-80
c. 60-90
c. 110-130
d. 50-80
40. What is the pulse rate of small cattle (beats/min)?
a. 70-80
c. 60-90
c. 110-130
d. 50-80

The key to the PC-2 competence test is the discipline "Cardiology"

Question No.	Right answer	Question No.	Right answer
1	b	21	b
2	d	22	c
3	a	23	c
4	a	24	d
5	a	25	a
6	b	26	b
7	a	27	c
8	a	28	b
9	b	29	c
10	c	30	b
11	c	31	c
12	d	32	c
13	a	33	a
14	b	34	b
15	b	35	c

16	d	36	a
17	a	37	d
18	a	38	b
19	d	39	c
20	a	40	a

PC-3. To set the diagnose based on the analysis of anamnesis, general, special (instrumental) and laboratory research methods

PC-3 ID-1 possess skills to make a diagnosis in accordance with generally accepted criteria and classifications, lists of animal diseases

1. What method of fixation is used in cattle?
1. By the horns and muzzle with a halter;
2. Behind the nasal septum;
3. Behind the ear;
4. Using muzzles.
2. What is the pulse rate of a horse at rest (beats/min)?
1. 24.0-42.0;
2. 60,0-90,0;
3. 32,0-52,0;
4. 50.0-80.0.
3. What is the pulse rate of a cow at rest (beats/min)?
1. 60.0-90.0;
2. 32,0-52,0;
3. 50,0-80,0;
4. 24.0-42.0.
4. What is the pulse rate of a cat at rest (beats/min)?
1. 24.0-42.0;
2. 60,0-90,0;
3. 110,0-130,0;
4. 50.0-80.0.
5. What is the pulse rate of a dog at rest (beats/min)?
1. 60.0-90.0;
2. 32,0-52,0;
3. 50,0-80,0;
4. 70.0-120.0.
6. What is the body temperature of cats (^{0}C)?
1. 38.5-40.0;
2. 38,0-40,0;
3. 40,0-42,0;
4. 38.0-39.5.
7. What is the body temperature of dogs (^{0}C)?
1. 37.5-39.0;
2. 38,0-40,0;
3. 40,0-42,0;
4. 37.5-38.5.
8. What is the body temperature of horses (^{0}C)?
1. 38.5-40.0;
2. 38,0-40,0;
3. 40,0-42,0;

4. 37.5-38.5.
9. What is the body temperature of cattle (^{0}C)?
1. 37.5-39.5;
2. 38,0-40,0;
3. 40,0-42,0;
4. 37,5-38,5.

PC-3 ID-2 To possess skills to use specialized information databases for the diagnosis of animal diseases

10. What is skin turgor?
1. Types of skin coloring;
2. The amount of dandruff on the skin;
3. The amount of fluid in the skin thickness;
4. All options are correct.
11. How to approach a cow correctly?
1. From the back;
2. In front;
3. On the side;
4. From above.
12. What should be the treatment of an animal?
1. Harsh;
2. Calm;
3. Sudden;
4. Rude.
13. What kind of animals are not fixed in machines?
1. Cats;
2. Horses;
3. Cattle;
4. Pigs.
14. What is recommended to give to an animal to increase the penetrating power of aerosols?
1. Antispasmodics;
2. Bronchodilators;
3. Mucolytic agents;
4. Antimicrobial agents.
15. What types of lamps does the Minin lamp belong to?
1. Infrared;
2. To UV;
3. To the visible;
4. To mercury.
16. What is not effective as a source of ultraviolet radiation?
1. Sunlight;
2. Sollux lamp;
3. Ultra violet lamps;
4. BUV lamp.
17. How are pigs given intravenous injections?
1. Into the ear vein;
2. Into the jugular vein;
3. Into the external ulnar vein;
4. Into the femoral vein.

PC-3 ID-3 To possess skills to document the results of clinical animal studies, using digital technologies

18. How many liters of water are injected into the rectum in adult pigs at one time during macroclysms?

1. 5.0 liters;

2. 10.0 L;

3. 20.0 l;

4. 0.5 l.

19. Which part of the pig's body should be scratched to facilitate inspection and contact with the animal?

1. Along the spine.

2. The belly;

3. Limbs.

4. Scratch behind the ears.

20. Which research method relates to instrumental diagnostics?

1. X-ray diagnostics;

2. General blood test;

3. Inspection;

4. Urine culture tank.

21. How to make a diagnosis?

1. Based on the examination;

2. Comprehensively;

3. According to laboratory parameters;

4. According to the ultrasound results.

22. What is considered when choosing an antibiotic for the treatment of pneumonia in the first place?

1. Prescription of the disease;

2. The nature of the causative agent of infection;

3. Individual drug intolerance;

4. Concomitant diseases.

23. Which of the following symptoms does not correspond to the diagnosis of sinusitis?

1. Mucopurulent discharge;

2. Difficulty breathing;

3. Box sound with percussion;

4. Cough.

24. How long after inhalation is it possible to take the animal for a walk?

1. After 20.0 minutes;

2. After 1.0 hour;

3. After 2.0-3.0 hours;

4. It doesn't matter.

25. Which sound during percussion is more typical for croup pneumonia?

1. Blunted tympanitis;

2. Boxed;

3. Dumb;

4. Tympanic.

26. What is the type of breathing in emphysema?

1. Vesicular;

2. Vesicular weakened;

3. Vesicular enhanced;

4. Bronchial.

PC-3 ID-4 To know the methods of interpretation and data analysis of special (instrumental) methods of animal examination

27. How much liquid should a patient with acute glomerulonephritis consume?

1. Sharply limited;

2. Limited;

3. The usual;

4. A large number.

28. In which area is pleurocentesis performed on the right side in dogs?

1. 6th intercostal space of the upper third of the chest;

2. 3-his intercostal space in the lower third of the chest;

3. 6th intercostal space of the lower third of the chest;

4. In the area of the last intercostal space.

29. In which area of agricultural animals is the suprapleural novocaine blockade performed according to Mosin?

1. 5th intercostal space;

2. 8th intercostal space;

3. 2nd lumbar vertebra;

4. In the area of the last intercostal space.

30. What kind of massage technique does not exist?

1. Stretching;

2. Pounding;

3. Rubbing;

4. Vibration.

31. What is the number of scar contractions in a healthy cow within 5 minutes?

1. From 3.0 to 5.0;

2. From 8.0 to 16.0;

3. From 2.0 to 7.0;

4. From 16.0 to 20.0.

32. What is used for oral examination in farm animals?

1. Mouth guard;

2. Retractor;

3. Yawn;

4. The rope.

33. What is used to examine the oral cavity of small pets?

1. Doctor's fingers;

2. Yawn.

3. Sedation.

4. The retractor.

PC-3 ID-6 To know the etiology and pathogenesis of animal diseases of various species

34. In what pathology do horses fall to the ground, ride on it, periodically assume the position of a sitting dog, intestinal noises are rare, protrusion occurs in the upper third of the 14th-17th ribs?

1. Enteralgia;

2. Coprostasis;

3. Pylorospasm (acute enlargement of the stomach);

4. Gastritis.

35. What is not an indication for pericardiocentesis?

1. Hydropericarditis;

2. Exudative pericarditis;
3. Tamponade of the heart;
4. Dry pericarditis.
36. What is used to extract a foreign body from the mesh in case of traumatic cow reticulitis;
1. The Khokhlov probe;
2. Cherkasov probe;
3. MD- 05;
4. Korobov probe (ZMU).
37. What kind of research is not carried out in the diagnosis of diseases of the urinary system?
1. MRI;
2. Pleurocentesis;
3. General urine analysis;
4. Bacteriological examination.

PC-3 ID-7 To know the generally accepted criteria and classifications of animal diseases, approved lists of animals disease

38. Visualization research methods include:
1. Biopsy;
2. Ultrasound examination;
3. Biochemical tests;
4. General blood test.
39. What therapy is used for rumen acidosis?
1. Oxidative;
2. Latching;
3. Neutralizing;
4. Reinforcing.
40. What noises will be heard when the book is blocked?
1. Tympanic;
2. There is no noise;
3. Splashing noises;
4. Friction noises.

The key to the PC-3 competence test is the discipline "Cardiology"

Question No.	Right answer	Question No.	Right answer
1	2	21	2
2	1	22	2
3	3	23	3
4	3	24	2
5	4	25	3
6	4	26	2
7	1	27	1
8	4	28	3
9	1	29	4
10	3	30	1
11	3	31	1
12	2	32	3
13	1	33	3
14	2	34	3
15	1	35	4
16	2	36	4
17	1	37	2
18	2	38	2

19	4	39	2
20	1	40	2

2.2 Typical tasks for intermediate certification

List of questions for the test

Emerging competencies: PC-2 Development of an animal research program and conduction of clinical study, using special (instrumental) and laboratory methods to clarify the diagnosis

PC-2 ID -1 To be able to study animals, using digital equipment and special (instrumental) methods, including endoscopy, probing, catheterization, radiography, electro cardiography, echography

PC-2 ID-6 To be able to interpret and analyze data from laboratory animal research methods for diagnosis

PC-2 ID-7 To know the indication for the use of digital equipment, special (instrumental) and laboratory methods of animal research in accordance with the guidelines, instructions, rules for the diagnosis, prevention and treatment of animals

PC-2 ID-9 To possess skills of the technique of the animal study, using digital equipment and special (instrumental) methods in accordance with methodological guidelines, instructions, rules for the diagnosis, prevention and treatment of animals

PC-2 ID-11 To possess skills of the technique of setting functional tests for animals

PC-3 To set the diagnose based on the analysis of anamnesis, general, special (instrumental) and laboratory research methods

PC-3 ID-1 possess skills to make a diagnosis in accordance with generally accepted criteria and classifications, lists of animal diseases

PC-3 ID-2 To possess skills to use specialized information databases for the diagnosis of animal diseases

PC-3 ID-3 To possess skills to document the results of clinical animal studies, using digital technologies

PC-3 ID-4 To know the methods of interpretation and data analysis of special (instrumental) methods of animal examination

PC-3 ID-6 To know the etiology and pathogenesis of animal diseases of various species

PC-3 ID-7 To know the generally accepted criteria and classifications of animal diseases, approved lists of animals disease

1. Departments of the heart.
2. Small circle of blood circulation.
3. A large circle of blood circulation.
4. The main characteristics of the ECG.
5. The anatomical structure of the heart.
6. Phases of cardiac activity.
7. Research of cardiac activity.
8. ECG arrhythmias.
9. Drugs for cardiac arrhythmias.
10. Chronic heart failure.
11. Tachycardia

12. Modern methods of diagnosis of heart diseases.
13. Symptoms of cardiovascular insufficiency.
14. Myocarditis
15. Diseases of the pericardium. Pericarditis
16. Congenital heart defects
17. Dilated cardiomyopathy
18. Endocardiosis
19. ECG readings in case of cardiac arrhythmia
20. Vectorcardiography
21. Functional tests of the heart
22. Phonocardiography
23. Ultrasound methods of heart examination
24. X-ray examination of the heart and blood vessels
25. Laboratory research methods in cardiology
26. Blood supply to the heart. Circulatory circles. The conductive system of the heart
27. Heart functions
28. Insufficiency of the aortic valves
29. Dropsy of the cardiac sac
30. Myocardosis
31. Endocarditis
32. Heart defects
33. Atherosclerosis
34. Vascular thrombosis
35. Definition and classification of cardiomyopathies
36. Dilated cardiomyopathy
37. Classification of hypertrophic cardiomyopathy
38. Classification of congenital heart defects and major vessels.

4. METHODOLOGICAL MATERIALS DEFINING THE PROCEDURES FOR ASSESSING KNOWLEDGE, SKILLS AND ABILITIES AND WORK EXPERIENCE CHARACTERIZING THE STAGES OF COMPETENCE FORMATION

The control of the development of the discipline "Internal non-communicable diseases" is carried out in accordance with the regulation "On the forms, frequency and procedure of current monitoring of academic performance and intermediate certification of students". The current control of the discipline allows you to assess the degree of perception of the educational material and is carried out to evaluate the results of studying the sections / topics of the discipline.

Criteria for evaluating the performance of the control work:

The mark "excellent" control is written in full in compliance with the necessary sequence of actions; passed on time;

The mark "good" control is written correctly, taking into account 1-2 minor errors or 2-3 defects, corrected independently at the request of the teacher;

The mark "satisfactory" is written correctly by at least half, 1-2 errors or one gross mistake were made, it was not delivered on time;

The mark "unsatisfactory" two (or more) gross mistakes were made in the course of work, which the student cannot correct even at the request of the teacher or the test was not passed at all.

Criteria for evaluating students' knowledge during testing:

The grade "excellent" is given if the student answers correctly at least 90% of the test tasks;

The grade "good" is given if the student answers correctly at least 80% of the test tasks;

The grade "satisfactory" is given if the correct answer of the student is at least 70 %;

The grade "unsatisfactory" is given if the student answers correctly to less than 70% of the test tasks.

Criteria for evaluating the colloquium:

Mark "excellent" the answer is given in full; correctly performs error analysis;

The mark is "good" the answer is given correctly, taking into account 1-2 minor errors or 2-3 defects, corrected independently at the request of the teacher;

The mark is "satisfactory" the answer is given correctly by at least half, 1-2 errors or one gross error were made;

Mark "unsatisfactory" two (or more) gross errors were made during the response, which the student cannot correct even at the request of the teacher.

Criteria for evaluating the completion of the course work:

The mark "excellent" course is completed in full in compliance with the necessary sequence of actions; completed on time;

The mark "good" of the course is executed correctly, taking into account 1-2 minor errors or 2-3 defects, corrected independently at the request of the teacher;

The mark "satisfactory" is written correctly by at least half, 1-2 errors or one gross error were made;

The mark "unsatisfactory" two (or more) gross mistakes were made during the writing of the work, which the student cannot correct even at the request of the teacher or the course paper has not been submitted at all.

Criteria for evaluating answers to test questions:

The mark "credited" is given in full; the answer is given correctly, taking into account 1-2 minor errors or 2-3 defects corrected independently at the request of the teacher, the answer is given correctly by at least half, 1-2 errors or one gross error are allowed;

The mark "not counted" two (or more) gross errors were made during the response, which the student cannot correct even at the request of the teacher.

Criteria for evaluating answers to exam questions:

The mark is "excellent" the answer is given in full;

The mark "good" correctly performs error analysis. The answer is given correctly, taking into account 1-2 minor errors or 2-3 defects, corrected independently at the request of the teacher;

The mark is "satisfactory" the answer is given correctly by at least half, 1-2 errors or one gross error were made;

Mark "unsatisfactory" two (or more) gross errors were made during the response, which the student cannot correct even at the request of the teacher.

Criteria for evaluating the performance of situational tasks:

Mark "excellent" the task was completed in full with the necessary sequence of actions; completed on time;

The mark is "good" the task was completed correctly, taking into account 1-2 minor errors or 2-3 defects, corrected independently at the request of the teacher;

The mark is "satisfactory" the task was completed correctly by at least half, 1-2 errors were made or one gross mistake was made, it was not delivered on time;

The mark "unsatisfactory" two (or more) gross mistakes were made in the course of work, which the student cannot correct even at the request of the teacher or the task is not done at all.

5. ACCESSIBILITY AND QUALITY OF EDUCATION FOR DISABLED PEOPLE

If necessary, persons with disabilities and persons with disabilities are given additional, time to prepare an answer for the test.

When conducting the procedure for evaluating the learning outcomes of disabled people and persons with disabilities, their own technical means can be used.

The procedure for evaluating the learning outcomes of disabled people and persons with disabilities in the discipline provides for the provision of information in forms adapted to the limitations of their health and perception of information:

For people with visual impairments:	– in printed form in enlarged font; – in the form of an electronic document.
For people with hearing impairments:	– in printed form; – in the form of an electronic document.
For people with disorders of the musculoskeletal system:	– in printed form, the device; – in the form of an electronic document.

When conducting the procedure for evaluating the learning outcomes of disabled people and persons with disabilities in the discipline, it ensures that the following additional requirements are met, depending on the individual characteristics of the students:

a) instructions on the procedure for conducting the assessment procedure are provided in an accessible form (orally, in writing);

b) an accessible form of assignment of assessment tools (in printed form, in printed form in enlarged font, in the form of an electronic document, assignments are read out by the teacher);

c) an accessible form of providing answers to tasks (written on paper, a set of answers on a computer, orally).

If necessary, for students with disabilities and the disabled, the procedure for evaluating the results of training in the discipline can be carried out in several stages.

The procedure for evaluating the learning outcomes of disabled people and persons with disabilities is allowed using distant learning technologies.