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 clinical diagnostics

EDUCATIONAL WORK PROGRAM

for the discipline

"CLINICAL DIAGNOSTICS"

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 april 25, 2024.
protocol no. 11

Head of the department
of clinical diagnostics,
doctor of veterinary medicine, professor
Kovalev S.P.

Saint Petersburg
2024

1. PURPOSE AND OBJECTIVES OF DISCIPLINE

The purpose of the discipline: to learn to correctly recognize and examine a sick animal, summarize the results obtained, evaluate the anatomical and physiological characteristics of the animal's body depending on environmental, technological and other conditions.

Objectives of the discipline: determination of health status and the earliest possible and comprehensive study of disorders that occur in the body, making it possible to diagnose the disease, determine its etiology and pathogenesis. Using general clinical research methods and laboratory diagnostics within the framework of propaedeutics, work out optimal methods for studying the biochemical, biophysical and cytological composition of biological fluids of the body, indicators of the health of animals in normal and pathological conditions, establish the diagnostic role of individual tests and their combinations; identify the features of individual indicators. To master the methodology for conducting clinical examination of productive animals as a set of planned measures aimed at the timely detection of animal diseases, disease prevention, with the aim of timely treatment of sick people and the creation of healthy, highly productive herds.

Clinical diagnostics as a subject consists of three main sections, closely related to each other: medical diagnostic technique, semiotics and medical logic, diagnostic methods. Of great importance are students' mastery of clinical, laboratory and instrumental methods of researching farm animals, gaining experience in identifying symptoms and syndromes, and the ability to analyze a situation in order to make a diagnosis.

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

Types of professional activity tasks:

- Medical;
- Expert control;
- Scientific and educational.

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

The education of the discipline should form the following competencies:

a) General professional competencies (GPC):

GPC-1 Is able to determine the biological status, normal clinical signs of organs and systems of the animal body.

GPC-1 ID-1 To know: safety precautions and personal hygiene rules during the examination of animals, methods of its fixation; schemes of clinical examination of an animal and the procedure for examination individual body systems; methodology for diagnosis of the pathological process

GPC-1 ID-2 To be able to: collect and analyze anamnesis data, conduct laboratory and functional studies, necessary to determine the animal biological status.

GPC-1 ID-3 To possess practical skills: for conducting on its own a clinical examination of an animal, using classical research methods and digital technologies.

PC-1. Anamnesis of animal life and disease to identify the cause of disease, conduct a general clinical study of animals in order to establish a preliminary diagnosis and determine the ongoing research program

PC-1 ID-1To be able to collect and analyze information about the origin and purpose of animals, the method and conditions of husbandary, feeding (anamnesis of animal life), including use of sensor devices, mechanisms, sensors, tags, etc.

PC-1 ID-2 To be able to collect and analyze information about the occurrence and manifestation of animals diseases, previously transmitted diseases, epizootological conditions (anamnesis of animal disease), with the use of sensor devices, mechanisms, sensors, tags, etc.
PC-1 ID-3 To be able to fix animals to ensure safety during a clinical trial
PC-1 ID-4 To be able to perform a clinical examination of animals, using common methods: examination, palpation, percussion, auscultation and thermometry.
PC-1 ID-5 To be able to establish a preliminary diagnosis based on anamnesis analysis and clinical research, using general methods.
PC-1 ID-6 To know the method of collecting animals anamnesis of life and disease.
PC-1 ID-7 To know the factors of animal life that contribute to the occurrence of infectious and non-infectious diseases.
PC-1 ID-8 To know the forms and rules for filling out the journal for the registration of sick animals and the animal's medical history, including in electronic form in accordance with the requirements of veterinary rules.
PC-1 ID-9 To know the methods of animals' fixation during clinical examination.
PC-1 ID-10 To know the technique of conducting an animal clinical study, using general methods, in accordance with the guidelines, instructions, rules for the diagnosis, prevention and treatment of animals.

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-4 To be able to take samples of animal biological material for laboratory research.
PC-2 ID-5 To be able to perform analytical preparation, storage of the studied biological material, transportation to the laboratory
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-8 To know the safe rules of operation with digital equipment, tools and equipment, used in special (instrumental) animal studies, including X-ray examinations.
PC-2 ID-9To 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-10 To know the methods and techniques of administration diagnostic and radiopaque substances for the animal.
PC-2 ID-11 To possess skills of the technique of setting functional tests for animals.
PC-2 ID-12 To know the methodology of sampling and analytical fullfilment of biological material samples for execution of laboratory analyses in accordance with the instructions and methodological documents, regulating the sampling of biological material

PC-12. Organization of the preventive clinical studies of animals, control of the veterinary and sanitary conditions and microclimate of livestock premises in accordance with the plan of antiepizootic measures, plan of the prevention of non-contagious animal diseases. plan of veterinary and sanitary measures

PC-12 ID-4 To be able to carry out clinical studies of animals, using digital technologies as part of the implementation of action plans for the prevention of animal diseases

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

Discipline B1.O.28 "Clinical Diagnostics" is a mandatory discipline of the federal state educational standard of higher education in the specialty 36.05.01 "Veterinary Medicine" (specialty level).

It is mastered in the 5th and 6th semester of full-time study.

When teaching the discipline "Clinical Diagnostics," the knowledge and skills acquired by students in mastering the disciplines of biophysics, zoology, histology and embryology, animal anatomy, biochemistry, physiology, and pathological physiology are used. The discipline "Clinical Diagnostics" is the basic one on which most subsequent disciplines are built, such as:

1. Internal non-communicable diseases.
2. Operative surgery with topographic anatomy.
3. Pathological anatomy and forensic veterinary examination.
4. Veterinary and sanitary examination.
5. Obstetrics and gynecology.
6. Immunology.
7. Diseases of laboratory, small and exotic animals.
8. Diseases of birds.
9. Epizootology
10. Parasitology

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	
		5	6
Classroom classes (total)	**133**	**48**	**85**
Including:	-	-	-
Lectures, including interactive forms	**50**	**16**	**34**
Practical (PP), including interactive forms, among which are:	68	34	34
practical training (PT)	14	6	8
Self-study	**134**	**58**	**76**
Control	**36**	**0**	**36**
Course work			+
Type of intermediate and final certification (credit, exam)	Credit, exam	Credit	Exam
Total labor intensity hours/credits	**252/8**	**108/3**	**144/4**

4. CONTENT OF THE DISCIPLINE "CLINICAL DIAGNOSTICS"

4.1 Contents of the discipline "Clinical Diagnostics" for full-time study

№	Name	FORMED COMPETENCIES	Semester	Types of educational work, including independent work of students and labor intensity (in hours)			
				L	PP	PT	SS
1.	The concept of clinical diagnostics, its goals and objectives. History of the development of clinical diagnostics, relationship with other disciplines. Symptoms and syndromes of diseases. Diagnosis and its classification. Disease prognosis. Medical history, clinical documentation .	**GPC-1 Is able to determine the biological status, normal clinical signs of organs and systems of the animal body.** GPC-1 ID-1 To know: safety precautions and personal hygiene rules during the examination of animals, methods of its fixation; schemes of clinical examination of an animal and the procedure for examination individual body systems; methodology for diagnosis of the pathological process	5	2			8
2.	Basic and special methods of clinical research. Animal clinical study plan. Safety precautions when working with animals.	**GPC-1 Is able to determine the biological status, normal clinical signs of organs and systems of the animal body.** GPC-1 ID-1 To know: safety precautions and personal hygiene rules during the examination of animals, methods of its fixation; schemes of clinical examination of an animal and the procedure for examination individual body systems; methodology for diagnosis of the pathological process GPC-1 ID-2 To be able to: collect and analyze anamnesis data, conduct laboratory and functional studies, necessary to determine the animal biological status. GPC-1 ID-3 To possess practical skills: for conducting on its own a clinical examination of an animal, using classical research methods and digital technologies. **PC-1. Anamnesis of animal life and disease to identify the cause of disease, conduct a general clinical study of animals in order to establish a preliminary diagnosis and determine the ongoing research program** PC-1 ID-1To be able to collect and analyze information about the origin and purpose of animals, the method and conditions of husbandary, feeding (anamnesis of animal life), including use of sensor devices, mechanisms, sensors, tags, etc. PC-1 ID-2 To be able to collect and analyze information about the occurrence and manifestation of animals diseases, previously transmitted diseases, epizootological conditions (anamnesis of animal disease), with the use of sensor devices, mechanisms, sensors, tags, etc. PC-1 ID-3 To be able to fix animals to ensure safety during a clinical trial PC-1 ID-4 To be able to perform a clinical examination of animals, using common methods: examination, palpation, percussion, auscultation and thermometry. PC-1 ID-5 To be able to establish a preliminary diagnosis based on anamnesis analysis and clinical research, using general methods.	5	2	4	2	10
3.	Определение габитуса.		5	2	2		4
4.	Examination of mucous membranes, skin and subcutaneous tissue.		5	2	4		6

5.	Examination of lymph nodes. Thermometry (hypothermia, hyperthermia, fever).	PC-1 ID-6 To know the method of collecting animals anamnesis of life and disease. PC-1 ID-7 To know the factors of animal life that contribute to the occurrence of infectious and non-infectious diseases. PC-1 ID-8 To know the forms and rules for filling out the journal for the registration of sick animals and the animal's medical history, including in electronic form in accordance with the requirements of veterinary rules. PC-1 ID-9 To know the methods of animals' fixation during clinical examination. PC-1 ID-10 To know the technique of conducting an animal clinical study, using general methods, in accordance with the guidelines, instructions, rules for the diagnosis, prevention and treatment of animals. **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-4 To be able to take samples of animal biological material for laboratory research. PC-2 ID-5 To be able to perform analytical preparation, storage of the studied biological material, transportation to the laboratory 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-8 To know the safe rules of operation with digital equipment, tools and equipment, used in special (instrumental) animal studies, including X-ray examinations. PC-2 ID-9To 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.	5	2	4	2	6
6.	Examination of the anterior respiratory organs	**GPC-1 Is able to determine the biological status, normal clinical signs of organs and systems of the animal body.**	5	2	3		6

7.	Lung examination (inspection, palpation, percussion, auscultation)	GPC-1 ID-1 To know: safety precautions and personal hygiene rules during the examination of animals, methods of its fixation; schemes of clinical examination of an animal and the procedure for examination individual body systems: methodology for diagnosis of the pathological process GPC-1 ID-2 To be able to: collect and analyze anamnesis data, conduct laboratory and functional studies, necessary to determine the animal biological status. GPC-1 ID-3 To possess practical skills: for conducting on its own a clinical examination of an animal, using classical research methods and digital technologies. **PC-1. Anamnesis of animal life and disease to identify the cause of disease, conduct a general clinical study of animals in order to establish a preliminary diagnosis and determine the ongoing research program** PC-1 ID-1To be able to collect and analyze information about the origin and purpose of animals, the method and conditions of husbandary, feeding (anamnesis of animal life), including use of sensor devices, mechanisms, sensors, tags, etc. PC-1 ID-2 To be able to collect and analyze information about the occurrence and manifestation of animals diseases, previously transmitted diseases, epizootological conditions (anamnesis of animal disease), with the use of sensor devices, mechanisms, sensors, tags, etc. PC-1 ID-3 To be able to fix animals to ensure safety during a clinical trial PC-1 ID-4 To be able to perform a clinical examination of animals, using common methods: examination, palpation, percussion, auscultation and thermometry. PC-1 ID-5 To be able to establish a preliminary diagnosis based on anamnesis analysis and clinical research, using general methods. PC-1 ID-6 To know the method of collecting animals anamnesis of life and disease. PC-1 ID-7 To know the factors of animal life that contribute to the occurrence of infectious and non-infectious diseases. PC-1 ID-8 To know the forms and rules for filling out the journal for the registration of sick animals and the animal's medical history, including in electronic form in accordance with the requirements of veterinary rules. PC-1 ID-9 To know the methods of animals' fixation during clinical examination. PC-1 ID-10 To know the technique of conducting an animal clinical study, using general methods, in accordance with the guidelines, instructions, rules for the diagnosis, prevention and treatment of animals.	5	2	8	2	12
8.	Respiratory pathology syndromes		5	2			6
	TOTAL FOR SEMESTER 5			**16**	**28**	**6**	**58**
9.	Heart examination (examination, percussion)	**GPC-1 Is able to determine the biological status, normal clinical signs of organs and systems of the animal body.** GPC-1 ID-1 To know: safety precautions and personal hygiene rules during the examination of animals, methods of its fixation; schemes of clinical examination of an animal and the procedure for examination individual body systems; methodology for diagnosis of the pathological process	6	2		2	8
10.	Auscultation of the heart		6	4	2		6
11	Vascular examination		6	2	2		4

12	Диагностика аритмий	GPC-1 ID-2 To be able to: collect and analyze anamnesis data, conduct laboratory and functional studies, necessary to determine the animal biological status. GPC-1 ID-3 To possess practical skills: for conducting on its own a clinical examination of an animal, using classical research methods and digital technologies. **PC-1. Anamnesis of animal life and disease to identify the cause of disease, conduct a general clinical study of animals in order to establish a preliminary diagnosis and determine the ongoing research program** PC-1 ID-2 To be able to collect and analyze information about the occurrence and manifestation of animals diseases. previously transmitted diseases, epizootological conditions (anamnesis of animal disease), with the use of sensor devices, mechanisms, sensors, tags, etc. PC-1 ID-3 To be able to fix animals to ensure safety during a clinical trial PC-1 ID-4 To be able to perform a clinical examination of animals, using common methods: examination, palpation, percussion, auscultation and thermometry. PC-1 ID-5 To be able to establish a preliminary diagnosis based on anamnesis analysis and clinical research, using general methods. PC-1 ID-6 To know the method of collecting animals anamnesis of life and disease. PC-1 ID-8 To know the forms and rules for filling out the journal for the registration of sick animals and the animal's medical history, including in electronic form in accordance with the requirements of veterinary rules. PC-1 ID-10 To know the technique of conducting an animal clinical study, using general methods, in accordance with the guidelines, instructions, rules for the diagnosis, prevention and treatment of animals. клинического исследования **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 **ПК-2 Разработка программы исследований животных и проведение клинического исследования животных с использованием специальных (инструментальных) и лабораторных методов, в том числе для уточнения диагноза** PC-2 ID-10 To know the methods and techniques of administration diagnostic and radiopaque substances for the animal. PC-2 ID-11 To possess skills of the technique of setting functional tests for animals.	6	4		2	8
13	Functional methods for studying the cardiovascular system. Syndromes		6	2	2		6
14.	Feed and water intake study	**GPC-1 Is able to determine the biological status, normal clinical signs of organs and systems of the animal body.** GPC-1 ID-1 To know: safety precautions and personal hygiene rules during the examination of animals, methods of its fixation; schemes of clinical examination of an animal and the procedure for examination individual body systems; methodology for diagnosis of the pathological process	6	4	4		6

15.	Study of forestomach and abomasum in ruminants	GPC-1 ID-2 To be able to: collect and analyze anamnesis data, conduct laboratory and functional studies, necessary to determine the animal biological status. GPC-1 ID-3 To possess practical skills: for conducting on its own a clinical examination of an animal, using classical research methods and digital technologies. **PC-1. Anamnesis of animal life and disease to identify the cause of disease, conduct a general clinical study of animals in order to establish a preliminary diagnosis and determine the ongoing research program** PC-1 ID-1To be able to collect and analyze information about the origin and purpose of animals, the method and conditions of husbandary, feeding (anamnesis of animal life), including use of sensor devices, mechanisms, sensors, tags. etc. PC-1 ID-2 To be able to collect and analyze information about the occurrence and manifestation of animals diseases. previously transmitted diseases, epizootological conditions (anamnesis of animal disease), with the use of sensor devices. mechanisms, sensors, tags. etc. PC-1 ID-3 To be able to fix animals to ensure safety during a clinical trial PC-1 ID-4 To be able to perform a clinical examination of animals. using common methods: examination, palpation. percussion, auscultation and thermometry. PC-1 ID-5 To be able to establish a preliminary diagnosis based on anamnesis analysis and clinical research, using general methods. PC-1 ID-6 To know the method of collecting animals anamnesis of life and disease. PC-1 ID-7 To know the factors of animal life that contribute to the occurrence of infectious and non-infectious diseases. PC-1 ID-8 To know the forms and rules for filling out the journal for the registration of sick animals and the animal's medical history. including in electronic form in accordance with the requirements of veterinary rules. PC-1 ID-9 To know the methods of animals' fixation during clinical examination. PC-1 ID-10 To know the technique of conducting an animal clinical study, using general methods, in accordance with the guidelines. instructions, rules for the diagnosis, prevention and treatment of animals. истории болезни животного. в том числе, электронном виде в соответствии с требованиями ветеринарной отчетности **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-4 To be able to take samples of animal biological material for laboratory research. PC-2 ID-5 To be able to perform analytical preparation, storage of the studied biological material, transportation to the laboratory 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	6	4	2	2	8

16.	Examination of the stomach and intestines	methods of animal research in accordance with the guidelines, instructions, rules for the diagnosis, prevention and treatment of animals PC-2 ID-8 To know the safe rules of operation with digital equipment, tools and equipment, used in special (instrumental) animal studies, including X-ray examinations. PC-2 ID-9To 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-10 To know the methods and techniques of administration diagnostic and radiopaque substances for the animal. PC-2 ID-11 To possess skills of the technique of setting functional tests for animals. PC-2 ID-12 To know the methodology of sampling and analytical fullfilment of biological material samples for execution of laboratory analyses in accordance with the instructions and methodological documents, regulating the sampling of biological material **PC-12. Organization of the preventive clinical studies of animals, control of the veterinary and sanitary conditions and microclimate of livestock premises in accordance with the plan of antiepizootic measures, plan of the prevention of non-contagious animal diseases. plan of veterinary and sanitary measures** PC-12 ID-4 To be able to carry out clinical studies of animals, using digital technologies as part of the implementation of action plans for the prevention of animal diseases PC-12 ID-4 To be able to carry out clinical studies of animals, using digital technologies as part of the implementation of action plans for the prevention of animal diseases	6	4	4		8
17.	Liver examination. Main syndromes..		6	4	4		8

18.	Examination of the urinary system organs. Syndromes	**GPC-1 Is able to determine the biological status, normal clinical signs of organs and systems of the animal body.** GPC-1 ID-1 To know: safety precautions and personal hygiene rules during the examination of animals, methods of its fixation; schemes of clinical examination of an animal and the procedure for examination individual body systems; methodology for diagnosis of the pathological process GPC-1 ID-2 To be able to: collect and analyze anamnesis data, conduct laboratory and functional studies, necessary to determine the animal biological status. GPC-1 ID-3 To possess practical skills: for conducting on its own a clinical examination of an animal, using classical research methods and digital technologies. **PC-1. Anamnesis of animal life and disease to identify the cause of disease, conduct a general clinical study of animals in order to establish a preliminary diagnosis and determine the ongoing research program** PC-1 ID-1To be able to collect and analyze information about the origin and purpose of animals, the method and conditions of husbandary, feeding (anamnesis of animal life), including use of sensor devices, mechanisms, sensors, tags, etc. PC-1 ID-2 To be able to collect and analyze information about the occurrence and manifestation of animals diseases, previously transmitted diseases, epizootological conditions (anamnesis of animal disease), with the use of sensor devices, mechanisms, sensors, tags, etc. PC-1 ID-3 To be able to fix animals to ensure safety during a clinical trial PC-1 ID-4 To be able to perform a clinical examination of animals, using common methods: examination, palpation, percussion, auscultation and thermometry. PC-1 ID-5 To be able to establish a preliminary diagnosis based on anamnesis analysis and clinical research, using general methods. PC-1 ID-6 To know the method of collecting animals anamnesis of life and disease. PC-1 ID-7 To know the factors of animal life that contribute to the occurrence of infectious and non-infectious diseases. PC-1 ID-8 To know the forms and rules for filling out the journal for the registration of sick animals and the animal's medical history, including in electronic form in accordance with the requirements of veterinary rules. PC-1 ID-9 To know the methods of animals' fixation during clinical examination. PC-1 ID-10 To know the technique of conducting an animal clinical study, using general methods, in accordance with the guidelines, instructions, rules for the diagnosis, prevention and treatment of animals. **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-4 To be able to take samples of animal biological material for laboratory research. PC-2 ID-5 To be able to perform analytical preparation, storage of the studied biological material, transportation to the laboratory PC-2 ID-6 To be able to interpret and analyze data from laboratory animal research methods for	6	4	4	2	6

19.	Study of the nervous system organs. Syndromes	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-8 To know the safe rules of operation with digital equipment, tools and equipment, used in special (instrumental) animal studies, including X-ray examinations. PC-2 ID-9To 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-10 To know the methods and techniques of administration diagnostic and radiopaque substances for the animal. PC-2 ID-11 To possess skills of the technique of setting functional tests for animals. PC-2 ID-12 To know the methodology of sampling and analytical fullfilment of biological material samples for execution of laboratory analyses in accordance with the instructions and methodological documents, regulating the sampling of biological material	6	2	2		8
		TOTAL FOR SEMESTER	**6**	**34**	**26**	**8**	**76**

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

Correct organization and planned self – work stimulate research and creative activity of students. Self-work should be understood not only as the ability to make independent conclusions and to apply the knowledge, gained in practice, but also as the ability to organize their activities without outside help.

Self-work over the discipline "Veterinary and sanitary expertise" allow to develop skills on the principles of veterinary and sanitary control of the rational use of animal and plant products (controlled by gosvetnadzor), as well as raw materials (for industrial processing of farm and natural fishing resources); environmental protection technologies and equipments; fundamentals of technologies, technical regulation and standardization, professional responsibility; international cooperation in the field of veterinary and sanitary expertise, food safety and protection of the territory of the Russian Federation from the introduction of infectious zooanthroponous and animal diseases; environmental protection; human consciousness and society for the development of the agro-industrial complex of the Russian Federation.

Students self-work illustrates the development of the following qualification requirements:

- the ability to identify problems and interests in the field of quality control and food safety;
- the ability to set an adequate goal, determine the sequence of tasks;
- the ability to find optimal solutions, effective means and methods to achieve the goal;
- the ability to find the necessary information using modern technologies, classify and systematize it;
- the ability to conduct scientific research in the field of food expertise;
- the ability to present the results of their activities, both in written and oral form for the procedure of public presentation, as well as lectures;
- the ability to master the skills of effective business cooperation.

Students self-work over the discipline "Veterinary and sanitary expertise" is the main way of mastering educational material. It is carried out in order to:

- develop and assimilate the educational material of the discipline;
- consolidate and ameliorate knowledge, skills and abilities;
- prepare for upcoming classes and control tasks;
- form the culture of intellectual work, independency and initiative in research and education.

Students self-work includes the development of theoretical material and preparation for practical classes in the basics of technical regulation and standardization of livestock products, TR and GSS of the Russian Federation, the HACCP system, food safety requirements: meat and meat products, milk and dairy products, fish and fish products, raw materials and technological processes of children's and specialized nutrition and others, food security issues.

The forms of student's self-work over the discipline "Veterinary and sanitary expertise" are:

- acquaintance with the work program;
- making notes and processing lecture material;
- preparation for group classes, including:

a) selection of necessary sources of information (literature, online publications, regulatory framework);

b) taking notes of educational, methodological and scientific literature;

c) processing and analysis of laws and regulations;

d) self-control of the processed questions and topics of the curriculum;

In addition, students self-work in a free form is realized through the preparation of reports and articles for student scientific conferences on the problems of veterinary and sanitary expertise, food security, rational development of the agro-industrial complex of the Russian Federation and the use of natural resources, innovative technologies and technical regulation in the field of veterinary and sanitary expertise, processing of meat, poultry, dairy, etc. raw materials, eggs, honey and bee products, vegetable raw materials, raw materials for food ghee of animal origine, the use of biotechnology.

During the practical classes, the discussion of the topic is conducted in a free creative form. Students discuss with the teacher not only the questions formulated in the educational and methodological complex, but also ask questions that they have during preparation for the seminar, and state their own position on a particular problematic issue in a reasoned manner.

Preparing for the lesson involves the study of theoretical lecture material and regulatory documents. When solving problems, it is recommended to analyze the conditions, formulate a solution clearly and competently, giving references to the relevant legal norms. In order to assimilate the material and better prepare for future professional activity, it is necessary to strive to change the conditions of the task in order to choose the best solution to a specific life situation.

The type of tasks for students' self-work is determined by the teacher through the work program and assessment funds.

Educational and methodological materials for self-work of disabled students are provided in forms adapted to the limitations of their health and perception of information and can be specified depending on the contingent of students.

6.1. Guidelines for self -work

1. Methodological instructions for completing course work in the discipline "Clinical Diagnostics" for students in the specialty "Veterinary Medicine" / compiled by: S. P. Kovalev [etc.]; Ministry of Agriculture of the Russian Federation, SPbGAVM. - St. Petersburg: Publishing house SPbGAVM, 2015. - 27 p. – URL: https://clck.ru/Vnb8s (date of access: 27/04/2024). - Access mode: for authorization. users of the SPbSUVM EB.

2. Clinical diagnostics: guidelines for students of the veterinary faculty of distance learning / compiled by: S. P. Kovalev, V. A. Trushkin; Ministry of Agriculture of the Russian Federation, SPbGAVM. – St. Petersburg: Publishing house SPbGAVM, 2013. - 26 p.

3. Methodological recommendations for organizing independent work in the disciplines "Clinical Diagnostics", "Hematology", "Laboratory Diagnostics", "Instrumental Diagnostic Methods" for students studying in the specialty "Veterinary Medicine" / compiled by: S. P. Kovalev [etc. .]; Ministry of Agriculture, SPbGAVM. - St. Petersburg: Falcon Print, 2019. - 26 p. – URL: https://clck.ru/eYPBz (date of access: 27/04/2024). - Access mode: for authorization. users of the SPbSUVM EB.

6.2. Literature for self-work

1. Kesareva, E. A. Clinical interpretation of biochemical parameters of blood serum of dogs and cats / E. A. Kesareva, V. N. Denisenko. - Moscow: KolosS, 2011. - 29 p.

2. Kovalev, S. P. Clinical assessment of hematological studies in farm animals: guidelines / S. P. Kovalev; Ministry of Agriculture of the Russian Federation, SPbGAVM. – St. Petersburg: Publishing house SPbGAVM, 2004. - 40 p.

3. Handbook of a veterinary therapist: textbook / G. G. Shcherbakov, N. V. Danilevskaya, S. V. Starchenkov [etc.]. - 5th ed., rev. and additional - St. Petersburg: Lan, 2021. - 656 p. - URL: https://e.lanbook.com/book/167796 (access date 27/04/2024). -Access mode: for authorization. users of EBS "Lan".

4. Basic syndromes of internal diseases of animals: textbook / Kovalev Sergey Pavlovich, A.P. Kurdeko, Yu.K. Kovalenok [etc.]; Ministry of Agriculture of the Russian Federation; SPbGAVM. - St. Petersburg: Publishing house SPbGAVM, 2013. - 48 p. - URL:

https://e.lanbook.com/book/121315 (access date 27/04/2024). - Access mode: for authorization. users of EBS "Lan".

5. Zelenevsky, N.V. Workshop on veterinary anatomy: textbook: in 3 volumes. T. 1. Somatic systems / N. V. Zelenevsky. - St. Petersburg: ISOT: NIK, 2007. - 304 p.: ill. – URL: https://clck.ru/R6zBq (date of access: 27/04/2024). - Access mode: for authorization. users of the SPbSUVM EB.

6.Zelenevsky, N.V. Workshop on veterinary anatomy: a textbook for university students. T. 2. Splanchnology and angiology / N. V. Zelenevsky. - 3rd ed., revised. and additional – St. Petersburg, Logos, 2006. - 160 p. - URL: https://clck.ru/R77Kh (access date 27/04/2024). - Access mode: for authorization. users of the SPbSUVM EB.

7. Zelenevsky, N.V. Workshop on veterinary anatomy: a textbook for university students. T. 3. Neurology. Sense organs. Features of the structure of poultry / N. V. Zelenevsky, A. A. Stekolnikov, K. V. Plemyashov; ed. N.V. Zelenevsky. - St. Petersburg: Logos, 2005. - 132 p. – URL: https://clck.ru/ebnFX (date of access: 27/04/2024). - Access mode: for authorization. users of the SPbSUVM EB.

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

7.1. Basic literature

1. Kovalev, S. P. Clinical diagnosis of internal diseases of animals: a textbook for universities / S. P. Kovalev, A. P. Kurdeko; Edited by S.P. Kovalev [and others]. - 6th ed., erased. - St. Petersburg: Lan, 2022. - 540 p. - URL: https://e.lanbook.com/book/215744 (access date: 27/04/2024). - Access mode: for authorization. users of EBS "Lan".

2. Clinical diagnostics with radiology: textbook / E. S. Voronin, G. V. Snoz, M. F. Vasiliev [etc.]; ed. E. S. Voronina. - Moscow: KolosS, 2006. - 509 p.: ill. - (Textbooks and study guides for university students).

3. Workshop on clinical diagnostics with radiology: textbook / E. S. Voronin, S. P. Kovalev, G. V. Snoz [etc.]; under general ed. E. S. Voronina, G. V. Snoza. - Moscow: INFRA-M, 2014. - 336 p.

7.2. Additional literature

1. Methods for diagnosing diseases of farm animals: a textbook for universities /A. P. Kurdeko, S. P. Kovalev, V. N. Aleshkevich [and others]; Edited by A. P. Kurdeko and S. P. Kovalev. - 3rd ed., erased. - St. Petersburg: Lan, 2021. - 208 p. - URL: https://e.lanbook.com/book/174996 (access date 27/04/2024). - Access mode: for authorization. users of EBS "Lan".

2.Ketosis of cows and calves: textbook / A.V. Trebukhov, A.A. Elenschläger, S.P. Kovalev [etc.]. - St. Petersburg: Lan, 2019. - 132 p. - URL: https://e.lanbook.com/book/115508 (access date: 25/04/2024). - Access mode: for authorization. users of EBS "Lan".

3. Stekolnikov, A. A. X-ray diagnostics in veterinary medicine: textbook: [approved by the Ministry of Agriculture of the Russian Federation for university students] / A. A. Stekolnikov, S. P. Kovalev, M. A. Narusbaeva. – St. Petersburg: SpetsLit, 2016. - 379 p.

4. Methods for diagnosing diseases of farm animals: a textbook for universities / A. P. Kurdeko, S. P. Kovalev, V. N. Aleshkevich [and others]. - 3rd ed., erased. - St. Petersburg: Lan, 2021. - 208 p. - URL: https://e.lanbook.com/book/174996 (access date: 27/04/2024). - Access mode: for authorization. users of EBS "Lan".

5. Microelementoses of farm animals: a textbook for students of veterinary faculties / S.P. Kovalev, A.P. Kurdeko, Shcherbakov Grigory Gavrilovich [and others]; S. P. Kovalev, A. P. Kurdeko, G. G. Shcherbakov [and others]; ed. S. P. Kovalev; Ministry of Agriculture of the Russian Federation, SPbGAVM. - St. Petersburg: SPbGAVM, 2013. - 132 p. - URL:

https://clck.ru/ekrWA (date of access: 27/04/2024). - Access mode: for authorization. users of the SPbSUVM EB.

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:

1. http://fsvps.ru The official website of the Federal Service for Veterinary and Phytosanitary Surveillance.
2. http://www.mcx.ru/ Official website of the Ministry of Agriculture
3. http://vetexpert.pro The portal "Veterinary expertise".
4. http://www.gost.ru Official website of the Federal Agency for Technical Regulation and Metrology.
5. http://www.kodeks.ru The electronic fund of normative documents "Code".
6. https://standartgost.ru An open database of GOST standards and other regulatory documents.
7. http://docs.cntd.ru Electronic fund of legal and regulatory and technical documentation

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 them organize the process of studying this discipline optimally.

The content of 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 effective for academic work (from 8-14 hours), followed by afternoon time (from 16-19 hours) and evening time (from 20-24 hours). 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 master 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).

The methodology of work when taking notes of oral presentations differs significantly from the methodology of work when taking notes of written sources.

By taking notes of written sources, the student has the opportunity to read again the desired passage of the text, reflect on it, highlight the main thoughts of the author, briefly formulate them, and then write them down. If necessary, he can also note his attitude to this point of view. Listening to the lecture, the student should transist most of the complexity of the above–mentioned works for another time, trying to use every minute to record the lecture, and not to comprehend it - there is no time left for this. Therefore, when taking notes of a lecture, it is recommended, to leave separate fields on each page for subsequent entries in addition to the summary.

After recording a lecture or making a summary of it, you should not leave work on the lecture material before preparing for the test. It is necessary to do as early as possible the work that accompanies takimg notes of written sources, the last could not be done during the recording of the lecture - read your notes, deciphering individual abbreviations, analyze the text, establish logical connections between its elements, in some cases show them graphically, highlight the main thoughts, mark issues, requiring additional processing, in particular, the teacher's consultations.

When working on the text of the lecture, the student should pay special attention to the problematic issues, raised by the teacher, during the lecture, as well as to his assignments and recommendations.

For each lecture, practical lesson and laboratory work, classification cod, topic, list of issues under consideration, volume in hours and links to recommended literature are provided. For classes conducted in interactive forms, its organizational form should be indicated: computer simulation, business or role-playing game, analysis of a specific situation, etc.

• Recommendations for preparing for practical classes

Practical (seminar) classes are an important part of the professional training of students. The main purpose of conducting practical (seminar) classes is to form students' analytical, creative thinking through the acquisition of practical skills. Practical classes are also conducted in order to deepen and consolidate the knowledge gained in lectures and in the process of independent work on normative documents, educational and scientific literature. For student, it is necessary, to study or repeat theoretical material on a given topic when preparing for a practical lesson for students.

When preparing for a practical lesson, the student is recommended to follow the following algorithm;

1) get acquainted with the plan of the upcoming lesson;

2) study the literature sources that have been recommended and familiarize yourself with the introductory notes to the relevant sections.

Methodological guidelines for practical (seminar) classes in the discipline, along with the work program and schedule of the educational process, refer to methodological documents that determine the level of organization and quality of the educational process.

The content of practical (seminar) classes is recorded in the working curricula of the disciplines in the sections "List of topics of practical (seminar) classes".

The most important component of any form of practical training are tasks. The basis of the task is an example that is understood from the standpoint of the theory developed in the lecture. As a rule, the main attention is paid to the formation of specific skills, which determines the content of students' activities - problem solving, laboratory work, clarification of categories and concepts of science, which are a prerequisite for correct thinking and speech.

• Practical (seminar) classes perform the following tasks:

- stimulate regular study of recommended literature, as well as attentive attitude to the lecture course;

- consolidate the knowledge gained in the process of lecture training and independent work on literature;

- expand the scope of professionally significant knowledge, skills, and abilities;
- allow you to verify the correctness of previously acquired knowledge;
- initiate skills of independent self-thinking, oral presentation;
- contribute to the free use of terminology;
-provide the teacher with the opportunity to systematically monitor the level of independent work of students.

Methodological guidelines for practical (seminar) classes on the discipline should be focused on modern business conditions, current regulatory documents, advanced technologies, the latest achievements of science, technology and practice, modern ideas about certain phenomena, the studied reality.

• Recommendations for working with literature.

Working with literature is an important stage of the student's self-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 personal hypotheses and ideas. In addition, the skills of research work necessary for further professional activityare 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 summary from the studied sources. All summaries 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.

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.

The title of the discipline (module), practice in accordance with the curriculum	**The title of special rooms and rooms for self-work**	**Equipment of special rooms and rooms for self-work**
Clinical diagnostics	101 (196084, St. Petersburg, Chernigovskaya str., 5, lit.G) Classroom for lecture-type classes, seminar-type classes, group and individual consultations, ongoing monitoring and intermediate certification	*Specialized furniture*: desks, chairs *Technical training tools*: video projector, slide presentations on the parts of the discipline
	103 (196084, St. Petersburg, Chernigovskaya str., 5, lit.G) Classroom for lecture-type classes, seminar-type classes, group and individual consultations, ongoing monitoring and intermediate certification	*Specialized furniture*: desks, chairs *Technical training tools*: video projector, slide presentations on the parts of the discipline
	109 (196084, St. Petersburg, Chernigovskaya str., 5, lit.G)	*Specialized furniture*: desks, chairs *Technical teaching aids: table scales,*

	Classroom for lecture-type classes, seminar-type classes, group and individual consultations, ongoing monitoring and intermediate certification	*drying cabinet, tripods, KFK, microscopes.*
	206 Large reading room (196084, St. Petersburg, Chernigovskaya str., 5) Room for self-work	*Specialized furniture:* tables, chairs *Technical means of education:* computers connected to the Internet and access to an electronic information and educational environment
	214 Small reading room (196084, St. Petersburg, Chernigovskaya str., 5) Room for self-work	*Specialized furniture:* tables, chairs *Technical means of education:* computers connected to the Internet and access to an electronic information and educational environment
	324 Information Technology Department (196084, St. Petersburg, Chernigovskaya str., 5) Room for storage and preventive maintenance of educational equipment	*Specialized furniture: tables,* chairs, special equipment, materials and spare parts for preventive maintenance of technical training facilities
	Box No. 3 Carpentry workshop (196084, St. Petersburg, Chernigovsaya str., 5) Room for storage and preventive maintenance of educational equipment	*Specialized furniture: tables,* chairs, special equipment, materials and spare parts for preventive maintenance of technical training facilities

Developers:

Head of the department
of clinical diagnostics,
doctor of veterinary medicine, professor — Kovalev S.P.

Associate Professor of the Department of clinical diagnostics,
candidate of veterinary sciences — Trushkin V.A.

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 Clinical diagnostics

FUND OF ASSESMENT TOOLS
for the discipline
"Clinical diagnostics"

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

№	Acquired competence	Assessed modules of a discipline	Assesment tool
1	**GPC-1 Is able to determine the biological status, normal clinical signs of organs and systems of the animal body.** GPC-1 ID-1 To know: safety precautions and personal hygiene rules during the examination of animals, methods of its fixation; schemes of clinical examination of an animal and the procedure for examination individual body systems; methodology for diagnosis of the pathological process GPC-1 ID-2 To be able to: collect and analyze anamnesis data, conduct laboratory and functional studies, necessary to determine the animal biological status. GPC-1 ID-3 To possess practical skills: for conducting on its own a clinical examination of an animal, using classical research methods and digital technologies. **PC-1. Anamnesis of animal life and disease to identify the cause of disease, conduct a general clinical study of animals in order to establish a preliminary diagnosis and determine the ongoing research program** PC-1 ID-1To be able to collect and analyze information about the origin and purpose of animals, the method and conditions of husbandary, feeding (anamnesis of animal life), including use of sensor devices, mechanisms, sensors, tags, etc. PC-1 ID-2 To be able to collect and analyze information about the occurrence and manifestation of animals diseases, previously transmitted diseases, epizootological conditions (anamnesis of animal disease), with the use of sensor devices, mechanisms, sensors, tags, etc. PC-1 ID-3 To be able to fix animals to ensure safety during a clinical trial PC-1 ID-4 To be able to perform a clinical examination of animals, using common methods: examination, palpation, percussion, auscultation and thermometry.	Section 1. General diagnostics	Test, Control work
2	**GPC-1 Is able to determine the biological status, normal clinical signs of organs and systems of the animal body.** GPC-1 ID-1 To know: safety precautions and personal hygiene rules during the examination of animals, methods of its fixation; schemes of clinical examination of an animal and the procedure for examination individual body systems; methodology for diagnosis of the pathological process GPC-1 ID-2 To be able to: collect and analyze anamnesis data, conduct laboratory and functional studies, necessary to determine the animal biological status. GPC-1 ID-3 To possess practical skills: for conducting on its own a clinical examination of an animal, using	Section 2. Research of the cardiovascular system	Test, Control work

	classical research methods and digital technologies. **PC-1. Anamnesis of animal life and disease to identify the cause of disease, conduct a general clinical study of animals in order to establish a preliminary diagnosis and determine the ongoing research program** PC-1 ID-1To be able to collect and analyze information about the origin and purpose of animals, the method and conditions of husbandary, feeding (anamnesis of animal life), including use of sensor devices, mechanisms, sensors, tags, etc. PC-1 ID-2 To be able to collect and analyze information about the occurrence and manifestation of animals diseases, previously transmitted diseases, epizootological conditions (anamnesis of animal disease), with the use of sensor devices, mechanisms, sensors, tags, etc. PC-1 ID-3 To be able to fix animals to ensure safety during a clinical trial PC-1 ID-4 To be able to perform a clinical examination of animals, using common methods: examination, palpation, percussion, auscultation and thermometry. PC-1 ID-5 To be able to establish a preliminary diagnosis based on anamnesis analysis and clinical research, using general methods. PC-1 ID-6 To know the method of collecting animals anamnesis of life and disease. PC-1 ID-8 To know the forms and rules for filling out the journal for the registration of sick animals and the animal's medical history, including in electronic form in accordance with the requirements of veterinary rules. PC-1 ID-10 To know the technique of conducting an animal clinical study, using general methods, in accordance with the guidelines, instructions, rules for the diagnosis, prevention and treatment of animals. **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-10 To know the methods and techniques of administration diagnostic and radiopaque substances for the animal. PC-2 ID-11 To possess skills of the technique of setting functional tests for animals.		
3	**GPC-1 Is able to determine the biological status, normal clinical signs of organs and systems of the animal body.** GPC-1 ID-1 To know: safety precautions and personal hygiene rules during the examination of animals, methods of its fixation; schemes of clinical examination of an animal and the procedure for examination individual body systems; methodology for diagnosis of the pathological process	Section 3. Respiratory examination	Test, Control work

	GPC-1 ID-2 To be able to: collect and analyze anamnesis data, conduct laboratory and functional studies, necessary to determine the animal biological status. GPC-1 ID-3 To possess practical skills: for conducting on its own a clinical examination of an animal, using classical research methods and digital technologies. **PC-1. Anamnesis of animal life and disease to identify the cause of disease, conduct a general clinical study of animals in order to establish a preliminary diagnosis and determine the ongoing research program** PC-1 ID-1To be able to collect and analyze information about the origin and purpose of animals, the method and conditions of husbandary, feeding (anamnesis of animal life), including use of sensor devices, mechanisms, sensors, tags, etc. PC-1 ID-3 To be able to fix animals to ensure safety during a clinical trial PC-1 ID-4 To be able to perform a clinical examination of animals, using common methods: examination, palpation, percussion, auscultation and thermometry PC-1 ID-5 To be able to establish a preliminary diagnosis based on anamnesis analysis and clinical research, using general methods. PC-1 ID-8 To know the forms and rules for filling out the journal for the registration of sick animals and the animal's medical history, including in electronic form in accordance with the requirements of veterinary rules. PC-1 ID-10 To know the technique of conducting an animal clinical study, using general methods, in accordance with the guidelines, instructions, rules for the diagnosis, prevention and treatment of animals. 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-1 ID-8 To know the forms and rules for filling out the journal for the registration of sick animals and the animal's medical history, including in electronic form in accordance with the requirements of veterinary rules. PC-1 ID-10 To know the technique of conducting an animal clinical study, using general methods, in accordance with the guidelines, instructions, rules for the diagnosis, prevention and treatment of animals. **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-10 To know the methods and techniques of administration diagnostic and radiopaque substances for the animal. PC-2 ID-11 To possess skills of the technique of setting functional tests for animals.		

4	**GPC-1 Is able to determine the biological status, normal clinical signs of organs and systems of the animal body.** GPC-1 ID-1 To know: safety precautions and personal hygiene rules during the examination of animals, methods of its fixation; schemes of clinical examination of an animal and the procedure for examination individual body systems; methodology for diagnosis of the pathological process GPC-1 ID-2 To be able to: collect and analyze anamnesis data, conduct laboratory and functional studies, necessary to determine the animal biological status. GPC-1 ID-3 To possess practical skills: for conducting on its own a clinical examination of an animal, using classical research methods and digital technologies. **PC-1. Anamnesis of animal life and disease to identify the cause of disease, conduct a general clinical study of animals in order to establish a preliminary diagnosis and determine the ongoing research program** PC-1 ID-1To be able to collect and analyze information about the origin and purpose of animals, the method and conditions of husbandary, feeding (anamnesis of animal life), including use of sensor devices, mechanisms, sensors, tags, etc. PC-1 ID-2 To be able to collect and analyze information about the occurrence and manifestation of animals diseases, previously transmitted diseases, epizootological conditions (anamnesis of animal disease), with the use of sensor devices, mechanisms, sensors, tags, etc. PC-1 ID-3 To be able to fix animals to ensure safety during a clinical trial PC-1 ID-4 To be able to perform a clinical examination of animals, using common methods: examination, palpation, percussion, auscultation and thermometry. PC-1 ID-5 To be able to establish a preliminary diagnosis based on anamnesis analysis and clinical research, using general methods. PC-1 ID-6 To know the method of collecting animals anamnesis of life and disease. PC-1 ID-7 To know the factors of animal life that contribute to the occurrence of infectious and non-infectious diseases. PC-1 ID-8 To know the forms and rules for filling out the journal for the registration of sick animals and the animal's medical history, including in electronic form in accordance with the requirements of veterinary rules. PC-1 ID-9 To know the methods of animals' fixation during clinical examination. PC-1 ID-10 To know the technique of conducting an animal clinical study, using general methods, in accordance with the guidelines, instructions, rules for the diagnosis, prevention and treatment of animals. **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	Section 4. Examination of the digestive organs	Test, Control work

	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-4 To be able to take samples of animal biological material for laboratory research. PC-2 ID-5 To be able to perform analytical preparation, storage of the studied biological material, transportation to the laboratory 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-8 To know the safe rules of operation with digital equipment, tools and equipment, used in special (instrumental) animal studies, including X-ray examinations. PC-2 ID-9To 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-10 To know the methods and techniques of administration diagnostic and radiopaque substances for the animal. PC-2 ID-11 To possess skills of the technique of setting functional tests for animals. PC-2 ID-12 To know the methodology of sampling and analytical fullfilment of biological material samples for execution of laboratory analyses in accordance with the instructions and methodological documents, regulating the sampling of biological material **PC-12. Organization of the preventive clinical studies of animals, control of the veterinary and sanitary conditions and microclimate of livestock premises in accordance with the plan of antiepizootic measures, plan of the prevention of non-contagious animal diseases. plan of veterinary and sanitary measures** PC-12 ID-4 To be able to carry out clinical studies of animals, using digital technologies as part of the implementation of action plans for the prevention of animal diseases		
5	**GPC-1 Is able to determine the biological status, normal clinical signs of organs and systems of the animal body.** GPC-1 ID-1 To know: safety precautions and personal hygiene rules during the examination of animals, methods of its fixation; schemes of clinical examination of an animal and the procedure for examination individual body systems; methodology for diagnosis of the pathological process	Section 5. Examination of the urinary system	Test, Control work

	GPC-1 ID-2 To be able to: collect and analyze anamnesis data, conduct laboratory and functional studies, necessary to determine the animal biological status. GPC-1 ID-3 To possess practical skills: for conducting on its own a clinical examination of an animal, using classical research methods and digital technologies. **PC-1. Anamnesis of animal life and disease to identify the cause of disease, conduct a general clinical study of animals in order to establish a preliminary diagnosis and determine the ongoing research program** PC-1 ID-1To be able to collect and analyze information about the origin and purpose of animals, the method and conditions of husbandary, feeding (anamnesis of animal life), including use of sensor devices, mechanisms, sensors, tags, etc. PC-1 ID-2 To be able to collect and analyze information about the occurrence and manifestation of animals diseases, previously transmitted diseases, epizootological conditions (anamnesis of animal disease), with the use of sensor devices, mechanisms, sensors, tags, etc. PC-1 ID-3 To be able to fix animals to ensure safety during a clinical trial PC-1 ID-4 To be able to perform a clinical examination of animals, using common methods: examination, palpation, percussion, auscultation and thermometry. PC-1 ID-5 To be able to establish a preliminary diagnosis based on anamnesis analysis and clinical research, using general methods. PC-1 ID-6 To know the method of collecting animals anamnesis of life and disease. PC-1 ID-7 To know the factors of animal life that contribute to the occurrence of infectious and non-infectious diseases. PC-1 ID-8 To know the forms and rules for filling out the journal for the registration of sick animals and the animal's medical history, including in electronic form in accordance with the requirements of veterinary rules. PC-1 ID-9 To know the methods of animals' fixation during clinical examination. PC-1 ID-10 To know the technique of conducting an animal clinical study, using general methods, in accordance with the guidelines, instructions, rules for the diagnosis, prevention and treatment of animals. **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.	Section 6. Study of the nervous system Section 7. Complete examination of the animal	Test, Control work Course work

	PC-2 ID-4 To be able to take samples of animal biological material for laboratory research. PC-2 ID-5 To be able to perform analytical preparation, storage of the studied biological material, transportation to the laboratory 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-8 To know the safe rules of operation with digital equipment, tools and equipment, used in special (instrumental) animal studies, including X-ray examinations. PC-2 ID-9To 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-10 To know the methods and techniques of administration diagnostic and radiopaque substances for the animal. PC-2 ID-11 To possess skills of the technique of setting functional tests for animals. PC-2 ID-12 To know the methodology of sampling and analytical fullfilment of biological material samples for execution of laboratory analyses in accordance with the instructions and methodological documents, regulating the sampling of biological material **PC-12. Organization of the preventive clinical studies of animals, control of the veterinary and sanitary conditions and microclimate of livestock premises in accordance with the plan of antiepizootic measures, plan of the prevention of non-contagious animal diseases. plan of veterinary and sanitary measures** PC-12 ID-4 To be able to carry out clinical studies of animals, using digital technologies as part of the implementation of action plans for the prevention of animal diseases		

List of assessment tools

№	Name of the assessment tool	Brief description of the assesment tool	Presentation of the assessment tool in the fund
1.	Seminar	A means of control is organized as a conversation between the teacher and the student on topics related to the discipline, and designed to clarify the amount of knowledge that students have on a certain module, topic, problem, etc. May be conducted in written form.	Questions on topics/modules of the discipline presented in relation to the competencies provided by the work program of the discipline
2.	Test	A system of standardized tasks, which allows to automate the assessment of students knowledge and skills	A fund of test assignments
3.	Report, Presentation	A product of a student's self work, which is presented as a public speech presenting the results of doing a research on a specific educational, practical, educational or scientific topic. May be done in PowerPoint presentation format	Topics of reports
4.	Course work	A product of the student's independent work, which is a complete written statement of the results obtained when examining an animal (educational and research work), where the author presents methods for studying organs and tissues, and also your own opinion about the patient's health status.	coursework topics
5	Exam	A means of monitoring the assimilation of educational material of the discipline as a whole.	Questions for the exam

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

Planned results of competency acquaired	The level of development				Assesment tool
	Unsatisfactory	Satisfactory	Good	Exellent	
GPC-1 Is able to determine the biological status, normal clinical signs of organs and systems of the animal body.					
GPC-1 ID-1 To know: safety precautions and personal hygiene rules during the examination of animals, methods of its fixation; schemes of clinical examination of an animal and the procedure for examination individual body systems; methodology for diagnosis of the pathological process	The level of knowledge is below the minimum requirements, gross errors have occurred	The minimum acceptable level of knowledge, many minor errors have been made	The level of knowledge corresponds to the training program, several minor errors have been made	The level of knowledge corresponds to the training program, no errors have been made	Independent work, tests, colloquium.
GPC-1 ID-2 To be able to: collect and analyze anamnesis data, conduct laboratory and functional studies, necessary to determine the animal biological status.	Basic skills were not demonstrated in solving standard tasks, and gross errors occurred	Basic skills have been demonstrated, typical problems have been solved with minor errors, all tasks have been completed, but not in full	All the basic skills have been demonstrated, all the main tasks have been solved with minor errors, all the tasks have been completed in full, but some with flaws	All basic skills have been demonstrated, all main tasks have been solved with some minor flaws, all tasks have been completed in full	Independent work, tests, colloquium

GPC-1 ID-3 To possess practical skills: for conducting on its own a clinical examination of an animal, using classical research methods and digital technologies.	When solving standard problems basic skills were not demonstrated, gross errors occurred	There is a minimum set of skills to solve standard tasks with some shortcomings	When solving standard problems basic skills were not demonstrated with some flaws	Skills were demonstrated in solving non-standard tasks without errors and flaws	Independent work, tests, colloquium. Course work
PC-1. Anamnesis of animal life and disease to identify the cause of disease, conduct a general clinical study of animals in order to establish a preliminary diagnosis and determine the ongoing research program					
PC-1 ID-1To be able to collect and analyze information about the origin and purpose of animals, the method and conditions of husbandary, feeding (anamnesis of animal life), including use of sensor devices, mechanisms, sensors, tags, etc.	The level of knowledge is below the minimum requirements, gross errors have occurred	The minimum acceptable level of knowledge, many minor errors have been made	The level of knowledge corresponds to the training program, several minor errors have been made	The level of knowledge corresponds to the training program, no errors have been made	Seminar, Test, Report, Control work
PC-1 ID-2 To be able to collect and analyze information about the occurrence and manifestation of animals diseases, previously transmitted diseases, epizootological conditions (anamnesis of animal disease), with the use of sensor devices, mechanisms, sensors, tags, etc.	The level of knowledge is below the minimum requirements, gross errors have occurred	The minimum acceptable level of knowledge, many minor errors have been made	The level of knowledge corresponds to the training program, several minor errors have been made	Skills were demonstrated in solving non-standard tasks without errors and flaws	Independent work, tests, colloquium. Course work
PC-1 ID-3 To be able to fix animals to ensure safety during a clinical trial	Basic skills were not demonstrated in solving standard tasks, and gross errors occurred	The minimum acceptable level of knowledge, many minor errors have been made	The level of knowledge corresponds to the training program, several minor errors have been made	Skills were demonstrated in solving non-standard tasks without errors and flaws	Independent work, tests, colloquium. Course work

PC-1 ID-4 To be able to perform a clinical examination of animals, using common methods: examination, palpation, percussion, auscultation and thermometry.	Basic skills were not demonstrated in solving standard tasks, and gross errors occurred	Basic skills have been demonstrated, typical problems have been solved with minor errors, all tasks have been completed, but not in full	All the basic skills have been demonstrated, all the main tasks have been solved with minor errors, all the tasks have been completed in full, but some with flaws	All basic skills have been demonstrated, all main tasks have been solved with some minor flaws, all tasks have been completed in full	Independent work, tests, colloquium. Course work
PC-1 ID-5 To be able to establish a preliminary diagnosis based on anamnesis analysis and clinical research, using general methods.	When solving standard problems basic skills were not demonstrated, gross errors occurred	There is a minimum set of skills to solve standard tasks with some shortcomings	When solving standard problems basic skills were not demonstrated with some flaws	Skills were demonstrated in solving non-standard tasks without errors and flaws	Independent work, tests, colloquium. Course work
PC-1 ID-6 To know the method of collecting animals anamnesis of life and disease.	When solving standard problems basic skills were not demonstrated, gross errors occurred	Basic skills have been demonstrated, typical problems have been solved with minor errors, all tasks have been completed, but not in full	All the basic skills have been demonstrated, all the main tasks have been solved with minor errors, all the tasks have been completed in full, but some with flaws	All basic skills have been demonstrated, all main tasks have been solved with some minor flaws, all tasks have been completed in full	Independent work, tests, colloquium. Course work

PC-1 ID-7 To know the factors of animal life that contribute to the occurrence of infectious and non-infectious diseases.	When solving standard problems it is not basic skills demonstrated, there were rough errors	There is a minimum set of skills to solve standard tasks with some shortcomings	When solving standard problems basic skills were not demonstrated with some flaws	Skills were demonstrated in solving non-standard tasks without errors and flaws	Independent work, tests, colloquium. Course work
PC-1 ID-8 To know the forms and rules for filling out the journal for the registration of sick animals and the animal's medical history, including in electronic form in accordance with the requirements of veterinary rules.	When solving standard problems it is not basic skills demonstrated, there were rough errors	There is a minimum set of skills to solve standard tasks with some shortcomings	When solving standard problems basic skills were not demonstrated with some flaws	All basic skills have been demonstrated, all main tasks have been solved with some minor flaws, all tasks have been completed in full	Independent work, tests, colloquium. Course work
PC-1 ID-9 To know the methods of animals' fixation during clinical examination.	When solving standard problems it is not basic skills demonstrated, there were rough errors	There is a minimum set of skills to solve standard tasks with some shortcomings	When solving standard problems basic skills were not demonstrated with some flaws	Skills were demonstrated in solving non-standard tasks without errors and flaws	Independent work, tests, colloquium. Course work
PC-1 ID-10 To know the technique of conducting an animal clinical study, using general methods, in accordance with the guidelines, instructions, rules for the diagnosis, prevention and treatment of animals.	When solving standard problems it is not basic skills demonstrated, there were rough errors	There is a minimum set of skills to solve standard tasks with some shortcomings	When solving standard problems basic skills were not demonstrated with some flaws	All basic skills have been demonstrated, all main tasks have been solved with some minor flaws, all tasks have been completed in full	Independent work, tests, colloquium. Course work

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	Basic skills were not demonstrated in solving standard tasks, and gross errors occurred	Basic skills have been demonstrated, typical problems have been solved with minor errors, all tasks have been completed, but not in full	All the basic skills have been demonstrated, all the main tasks have been solved with minor errors, all the tasks have been completed in full, but some with flaws	All basic skills have been demonstrated, all main tasks have been solved with some minor flaws, all tasks have been completed in full	Independent work, tests, colloquium.
PC-2 ID-2 To be able to interpret and analyze data from special (instrumental) animal research methods to verify the diagnosis.	Basic skills were not demonstrated in solving standard tasks, and gross errors occurred	Basic skills have been demonstrated, typical problems have been solved with minor errors, all tasks have been completed, but not in full	All the basic skills have been demonstrated, all the main tasks have been solved with minor errors, all the tasks have been completed in full, but some with flaws	All basic skills have been demonstrated, all main tasks have been solved with some minor flaws, all tasks have been completed in full	Independent work, tests, colloquium. Course work
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.	Basic skills were not demonstrated in solving standard tasks, and gross errors occurred	Basic skills have been demonstrated, typical problems have been solved with minor errors, all tasks have been completed, but not in full	All the basic skills have been demonstrated, all the main tasks have been solved with minor errors, all the tasks have been completed in full, but some with flaws	All basic skills have been demonstrated, all main tasks have been solved with some minor flaws, all tasks have been completed in full	Independent work, tests, colloquium. Course work

PC-2 ID-4 To be able to take samples of animal biological material for laboratory research.	Basic skills were not demonstrated in solving standard tasks, and gross errors occurred	Basic skills have been demonstrated, typical problems have been solved with minor errors, all tasks have been completed, but not in full	All the basic skills have been demonstrated, all the main tasks have been solved with minor errors, all the tasks have been completed in full, but some with flaws	All basic skills have been demonstrated, all main tasks have been solved with some minor flaws, all tasks have been completed in full	Independent work, tests, colloquium. Course work
PC-2 ID-5 To be able to perform analytical preparation, storage of the studied biological material, transportation to the laboratory	Basic skills were not demonstrated in solving standard tasks, and gross errors occurred	Basic skills have been demonstrated, typical problems have been solved with minor errors, all tasks have been completed, but not in full	All the basic skills have been demonstrated, all the main tasks have been solved with minor errors, all the tasks have been completed in full, but some with flaws	All basic skills have been demonstrated, all main tasks have been solved with some minor flaws, all tasks have been completed in full	Independent work, tests, colloquium. Course work
PC-2 ID-6 To be able to interpret and analyze data from laboratory animal research methods for diagnosis.	The level of knowledge is below the minimum requirements, gross errors have occurred	The minimum acceptable level of knowledge, many minor errors have been made	The level of knowledge corresponds to the training program, several minor errors have been made	The level of knowledge corresponds to the training program, no errors have been made	Independent work, tests, colloquium. Course work
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	The level of knowledge is below the minimum requirements, gross errors have occurred	The minimum acceptable level of knowledge, many minor errors have been made	The level of knowledge corresponds to the training program, several minor errors have been made	The level of knowledge corresponds to the training program, no errors have been made	Independent work, tests, colloquium. Course work

PC-2 ID-8 To know the safe rules of operation with digital equipment, tools and equipment, used in special (instrumental) animal studies, including X-ray examinations.	The level of knowledge is below the minimum requirements, gross errors have occurred	The minimum acceptable level of knowledge, many minor errors have been made	The level of knowledge corresponds to the training program, several minor errors have been made	All basic skills have been demonstrated, all main tasks have been solved with some minor flaws, all tasks have been completed in full	Independent work, tests, colloquium. Course work
PC-2 ID-9To 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.	The level of knowledge is below the minimum requirements, gross errors have occurred	The minimum acceptable level of knowledge, many minor errors have been made	The level of knowledge corresponds to the training program, several minor errors have been made	The level of knowledge corresponds to the training program, no errors have been made	Independent work, tests, colloquium. Course work
PC-2 ID-10 To know the methods and techniques of administration diagnostic and radiopaque substances for the animal.	The level of knowledge is below the minimum requirements, gross errors have occurred	The minimum acceptable level of knowledge, many minor errors have been made	The level of knowledge corresponds to the training program, several minor errors have been made	The level of knowledge corresponds to the training program, no errors have been made	Independent work, tests, colloquium. Course work
PC-2 ID-11 To possess skills of the technique of setting functional tests for animals.	The level of knowledge is below the minimum requirements, gross errors have occurred	The minimum acceptable level of knowledge, many minor errors have been made	The level of knowledge corresponds to the training program, several minor errors have been made	The level of knowledge corresponds to the training program, no errors have been made	Independent work, tests, colloquium. Course work

PC-2 ID-12 To know the methodology of sampling and analytical fullfilment of biological material samples for execution of laboratory analyses in accordance with the instructions and methodological documents, regulating the sampling of biological material	The level of knowledge is below the minimum requirements, gross errors have occurred	The minimum acceptable level of knowledge, many minor errors have been made	The level of knowledge corresponds to the training program, several minor errors have been made	The level of knowledge corresponds to the training program, no errors have been made	Independent work, tests, colloquium. Course work
PC-12. Organization of the preventive clinical studies of animals, control of the veterinary and sanitary conditions and microclimate of livestock premises in accordance with the plan of antiepizootic measures, plan of the prevention of non-contagious animal diseases. plan of veterinary and sanitary measures					
PC-12 ID-4 To be able to carry out clinical studies of animals, using digital technologies as part of the implementation of action plans for the prevention of animal diseases	The level of knowledge is below the minimum requirements, gross errors have occurred	The minimum acceptable level of knowledge, many minor errors have been made	The level of knowledge corresponds to the training program, several minor errors have been made	The level of knowledge corresponds to the training program, no errors have been made	Independent work, tests, colloquium. Course work

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

3.1. Typical tasks for the current control of academic progress

3.2. Questions for colloquia

3.2.1. For the section "General diagnostics"

GPC-1 Is able to determine the biological status, normal clinical signs of organs and systems of the animal body.
GPC-1 ID-1 To know: safety precautions and personal hygiene rules during the examination of animals, methods of its fixation; schemes of clinical examination of an animal and the procedure for examination individual body systems: methodology for diagnosis of the pathological process
GPC-1 ID-2 To be able to: collect and analyze anamnesis data, conduct laboratory and functional studies, necessary to determine the animal biological status.
GPC-1 ID-3 To possess practical skills: for conducting on its own a clinical examination of an animal, using classical research methods and digital technologies.
PC-1. Anamnesis of animal life and disease to identify the cause of disease, conduct a general clinical study of animals in order to establish a preliminary diagnosis and determine the ongoing research program
PC-1 ID-1To be able to collect and analyze information about the origin and purpose of animals, the method and conditions of husbandary, feeding (anamnesis of animal life), including use of sensor devices, mechanisms, sensors, tags, etc.
PC-1 ID-2 To be able to collect and analyze information about the occurrence and manifestation of animals diseases, previously transmitted diseases, epizootological conditions (anamnesis of animal disease), with the use of sensor devices, mechanisms, sensors, tags, etc.
PC-1 ID-3 To be able to fix animals to ensure safety during a clinical trial
PC-1 ID-4 To be able to perform a clinical examination of animals, using common methods: examination, palpation, percussion, auscultation and thermometry.

1. General examination of the animal (list methods, describe in detail the examination of mucous membranes).
2. External palpation, its types.
3. Percussion, its types.
4. Changes in mucous membranes in various pathologies.
5. Palpation, its types
6. Skin research (research methods, physiological properties, describe in detail the study of moisture in different animal species)
7. Inspection. Classification and plan for describing pathological changes identified during examination.
8. Habitus. Describe in detail the study of physique and temperament.
9. Approach to animals, methods of restraining large animals (cattle and horses)
10. Determination of elasticity and odor of the skin, their changes in pathologies.
11. Methods of restraining small animals (sheep, goats, dogs, cats, rabbits and chickens)
12. Study of lymph nodes in different species of animals (what indicators are determined).
13. Auscultation, its types.
14. Study of mucous membranes (main indicators determined during the study).
15. Clinical trial plan

6. Habitus. Describe in detail the study of fatness and type of constitution.
17. Preliminary acquaintance with the sick animal (registration, anamnesis).
18. Study of body position in space, changes in pathologies.
19. Thermometry. Body temperature indicators in different animal species.
20. Study of lymph nodes in cattle (characterize each pair of lymph nodes).
21. Skin examination. Describe in detail the study of coat, temperature and skin color, as well as their changes in pathologies.
22. Percussion sounds.
23. Main indicators determined by palpation and their changes.
24. Pathological changes in the skin (list and give a brief description).
25. Working conditions in the clinic, basic requirements, rules of approach to animals.
26. Changes in body position in space, forced movements.

3.2.2. For the section "Research of the cardiovascular system"

GPC-1 Is able to determine the biological status, normal clinical signs of organs and systems of the animal body.
GPC-1 ID-1 To know: safety precautions and personal hygiene rules during the examination of animals, methods of its fixation; schemes of clinical examination of an animal and the procedure for examination individual body systems; methodology for diagnosis of the pathological process
GPC-1 ID-2 To be able to: collect and analyze anamnesis data, conduct laboratory and functional studies, necessary to determine the animal biological status.
GPC-1 ID-3 To possess practical skills: for conducting on its own a clinical examination of an animal, using classical research methods and digital technologies.
PC-1. Anamnesis of animal life and disease to identify the cause of disease, conduct a general clinical study of animals in order to establish a preliminary diagnosis and determine the ongoing research program
PC-1 ID-1To be able to collect and analyze information about the origin and purpose of animals, the method and conditions of husbandary, feeding (anamnesis of animal life), including use of sensor devices, mechanisms, sensors, tags, etc.
PC-1 ID-2 To be able to collect and analyze information about the occurrence and manifestation of animals diseases, previously transmitted diseases, epizootological conditions (anamnesis of animal disease), with the use of sensor devices, mechanisms, sensors, tags, etc.
PC-1 ID-3 To be able to fix animals to ensure safety during a clinical trial
PC-1 ID-4 To be able to perform a clinical examination of animals, using common methods: examination, palpation, percussion, auscultation and thermometry.
PC-1 ID-5 To be able to establish a preliminary diagnosis based on anamnesis analysis and clinical research, using general methods.
PC-1 ID-6 To know the method of collecting animals anamnesis of life and disease.
PC-1 ID-8 To know the forms and rules for filling out the journal for the registration of sick animals and the animal's medical history, including in electronic form in accordance with the requirements of veterinary rules.
PC-1 ID-10 To know the technique of conducting an animal clinical study, using general methods, in accordance with the guidelines, instructions, rules for the diagnosis, prevention and treatment of animals.
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-10 To know the methods and techniques of administration diagnostic and radiopaque substances for the animal.
PC-2 ID-11 To possess skills of the technique of setting functional tests for animals.

1. Study of the cardiac impulse in horses and dogs. The concept of cardiac impulse, research methods, main indicators determined during the study.
2. Weakening of heart sounds.
3. Characteristics of the pulse according to the degree of tension.
4. Study of cardiac impulse in cattle and pigs.

5. The concept of cardiac impulse, research methods, main indicators determined by palpation.
6. Increased heart sounds.
7. Study of arterial pulse in horses. Topography of the studied arteries, and the main indicators determined during the study.
8. Percussion of the cardiac region in cattle and pigs. Purpose, methodology and boundaries of the heart.
9. Split heart sounds.
10. Characteristics of the pulse according to the degree of filling.
11. Percussion of the heart region in horses. Purpose, technique, boundaries of the heart determined by percussion.
12. Extracardiac murmurs. Classification and their characteristics.
13. Characteristics of the pulse by the nature (shape) of the pulse wave.
14. Percussion of the heart area in dogs. Purpose, boundaries of the heart, sounds established by percussion.
15. Research plan for the cardiovascular system.
16. Cardiac murmurs, their classification.
17. Pathological changes during percussion of the heart area (changes in boundaries and percussion sound).
18. Auscultation of the heart in horses. Purpose, puncta optima.
19. The main indicators that are used when interpreting the ECG.
20. Endocardial murmurs. Their classification, characteristics. The main pathological conditions in which they are detected.
21. ECG, methodology.
22. Vein examination. Basic research methods. Vein congestion.
23. Change in cardiac impulse (position, strength, area of distribution, etc.).
24. Positive venous pulse. Characteristics, determination technique, causes of occurrence.
25. Vectorcardiography. Concept of the method, purpose of use.
26. Phonocardiography. Concept of the method. Characteristics of tones. Clinical significance.
27. Auscultation of the heart in pigs and dogs.
28. Venous pressure measurement. Measurement technique, its changes in pathologies.
29. Blood pressure measurement. Methodology. Basic standards for various animal species.
30. ECG in healthy animals. Characteristics of teeth and intervals.
31. False venous pulse (venous undulation). Characteristics, detection technique, reasons for its occurrence.
32. Percussion of the heart area in small cattle (target, borders of the heart).
33. Origin of heart sounds.
34. Study of arterial pulse in cattle. Topography of the studied vessels, indicators determined during pulse examination.
35. Pulse rate in various species of animals. Changes in heart rate in various diseases.
36. Change in P wave, PQ interval, Q wave.
37. Negative venous pulse. Characteristics, determination technique.

38. Study of arterial pulse in small cattle, pigs, dogs and cats. Topography of the studied vessels, indicators determined during the study. Characteristics of pulse by rhythm.
39. Changes in the R wave, ST interval and T wave.
40. Changes in blood pressure in various pathologies.
41. The concept of a normogram. Pravogramma, levogramma, characteristics and clinical significance. 42. Functional heart murmurs. Classification, reasons for their occurrence.
43. Study of venous pulse. Research methods. Classification of venous pulse.
44. Functional methods for studying the cardiovascular system.
45. Splitting and bifurcation of heart sounds
46. Characteristics of the arterial pulse based on the magnitude of the pulse wave.
47. Give a scheme for studying the cardiovascular system.
48. Describe the topography of the heart in horses and cattle.
49. How and for what purpose is the cardiac region examined? What is the normal state of this area, what changes can occur with pathology and with what diseases in particular?
50. What are the purposes of palpation of the cardiac region, what do they pay attention to? Describe the cardiac impulse in healthy animals and indicate its possible changes in pathology.
51. What changes in the properties of the cardiac impulse can occur in pathology, what are the causes of these changes and in what diseases are they observed?
52. What is the purpose of percussion of the cardiac region? Name the boundaries of the heart in healthy horses and cattle and their possible deviations in pathology.
53. What changes in the boundaries of the heart occur in pathology? What are the causes of these changes and in what diseases are they observed?
54. What percussion sounds are found in the cardiac region in horses and cattle normally, what is this connected with, and what changes can occur in pathology?
55. What changes in normal percussion sounds in the cardiac region in horses and cattle can occur in pathology, what are the reasons for the formation of these sounds and in what diseases are they observed?
56. What properties of heart sounds are paid attention to when listening to the heart: what are these properties in healthy animals and what changes can occur in pathology?
57. What is the strength of heart sounds in healthy animals and what changes can occur in pathology??

3.2.3. For the section "Study of the respiratory system"

GPC-1 Is able to determine the biological status, normal clinical signs of organs and systems of the animal body.
GPC-1 ID-1 To know: safety precautions and personal hygiene rules during the examination of animals, methods of its fixation; schemes of clinical examination of an animal and the procedure for examination individual body systems; methodology for diagnosis of the pathological process
GPC-1 ID-2 To be able to: collect and analyze anamnesis data, conduct laboratory and functional studies, necessary to determine the animal biological status.
GPC-1 ID-3 To possess practical skills: for conducting on its own a clinical examination of an animal, using classical research methods and digital technologies.

PC-1. Anamnesis of animal life and disease to identify the cause of disease, conduct a general clinical study of animals in order to establish a preliminary diagnosis and determine the ongoing research program

PC-1 ID-1To be able to collect and analyze information about the origin and purpose of animals. the method and conditions of husbandary. feeding (anamnesis of animal life). including use of sensor devices. mechanisms. sensors. tags, etc.

PC-1 ID-3 To be able to fix animals to ensure safety during a clinical trial

PC-1 ID-4 To be able to perform a clinical examination of animals. using common methods: examination. palpation, percussion. auscultation and thermometry

PC-1 ID-5 To be able to establish a preliminary diagnosis based on anamnesis analysis and clinical research, using general methods.

PC-1 ID-8 To know the forms and rules for filling out the journal for the registration of sick animals and the animal's medical history. including in electronic form in accordance with the requirements of veterinary rules.

PC-1 ID-10 To know the technique of conducting an animal clinical study. using general methods. in accordance with the guidelines. instructions. rules for the diagnosis, prevention and treatment of animals.

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-1 ID-8 To know the forms and rules for filling out the journal for the registration of sick animals and the animal's medical history, including in electronic form in accordance with the requirements of veterinary rules.

PC-1 ID-10 To know the technique of conducting an animal clinical study. using general methods. in accordance with the guidelines. instructions. rules for the diagnosis, prevention and treatment of animals.

1. Study plan of the anterior respiratory system.
2. Study of exhaled air (main indicators determined during the study and their changes in pathology). 3. Topographic percussion of the lungs in large and small cattle (purpose, technique, posterior border of the lungs).
4. Study of nasal discharge, their characteristics in healthy animals, and their changes in pathology
5. Topographic percussion of the lungs in horses, dogs and pigs (purpose, technique, posterior border of the lungs).
6. Study of the nasal openings and nasal mucosa (their changes in pathology).
7. Comparative percussion (technique). Changes in the boundaries of the lungs due to pathology.
8. Study of the paranasal sinuses and air sacs in monoungulates (topography. research methods).
9. Auscultation of the lungs (purpose, technique in various animals).
10. Examination of the larynx and trachea.
11. Basic breathing sounds during auscultation of the lungs. Their characteristics in different animal species.
12. Examination of cough, thyroid gland and sputum.
13. Change in percussion sound in pathology
14. Indicators determined during examination of the chest.
15. Study of respiratory rate (its change in pathology).
16. Changes in vesicular respiration in pathology.
17. Dyspnea, their characteristics, clinical significance.
18. Extrapulmonary noises.
19. Respiratory arrhythmias. Their classification, clinical significance.
20. Functional methods for studying the respiratory system.

21. Shape of the chest, its changes in pathology. Palpation of the chest.
22. Results of chest percussion in cattle.
23. Results of chest percussion in horses and pigs.
24. Results of chest percussion in carnivores.
25. Results of percussion and auscultation in lobar pneumonia.
26. Bronchopulmonary murmurs (their classification and clinical significance).
27. Plegafony (purpose and technique).
28. Type of breathing, strength and symmetry of breathing movements. Their changes in pathology. 29. Results of percussion and auscultation for pleurisy.
30. Graphic methods for studying the respiratory system.
31. Results of percussion and auscultation for pleurisy.
32. Test puncture of the chest (purpose and technique).
33. Results of percussion and auscultation in bronchopneumonia.

3.2.4. For the section "Study of the digestive system"

GPC-1 Is able to determine the biological status, normal clinical signs of organs and systems of the animal body.

GPC-1 ID-1 To know: safety precautions and personal hygiene rules during the examination of animals, methods of its fixation; schemes of clinical examination of an animal and the procedure for examination individual body systems; methodology for diagnosis of the pathological process

GPC-1 ID-2 To be able to: collect and analyze anamnesis data, conduct laboratory and functional studies, necessary to determine the animal biological status.

GPC-1 ID-3 To possess practical skills: for conducting on its own a clinical examination of an animal, using classical research methods and digital technologies.

PC-1. Anamnesis of animal life and disease to identify the cause of disease, conduct a general clinical study of animals in order to establish a preliminary diagnosis and determine the ongoing research program

PC-1 ID-1To be able to collect and analyze information about the origin and purpose of animals, the method and conditions of husbandary, feeding (anamnesis of animal life), including use of sensor devices, mechanisms, sensors, tags, etc.

PC-1 ID-2 To be able to collect and analyze information about the occurrence and manifestation of animals diseases, previously transmitted diseases, epizootological conditions (anamnesis of animal disease), with the use of sensor devices, mechanisms, sensors, tags, etc.

PC-1 ID-3 To be able to fix animals to ensure safety during a clinical trial

PC-1 ID-4 To be able to perform a clinical examination of animals, using common methods: examination, palpation, percussion, auscultation and thermometry.

PC-1 ID-5 To be able to establish a preliminary diagnosis based on anamnesis analysis and clinical research, using general methods.

PC-1 ID-6 To know the method of collecting animals anamnesis of life and disease.

PC-1 ID-7 To know the factors of animal life that contribute to the occurrence of infectious and non-infectious diseases.

PC-1 ID-8 To know the forms and rules for filling out the journal for the registration of sick animals and the animal's medical history, including in electronic form in accordance with the requirements of veterinary rules.

PC-1 ID-9 To know the methods of animals' fixation during clinical examination.

PC-1 ID-10 To know the technique of conducting an animal clinical study, using general methods, in accordance with the guidelines, instructions, rules for the diagnosis, prevention and treatment of animals.

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-4 To be able to take samples of animal biological material for laboratory research.
PC-2 ID-5 To be able to perform analytical preparation, storage of the studied biological material, transportation to the laboratory
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-8 To know the safe rules of operation with digital equipment, tools and equipment, used in special (instrumental) animal studies, including X-ray examinations.
PC-2 ID-9To 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-10 To know the methods and techniques of administration diagnostic and radiopaque substances for the animal.
PC-2 ID-11 To possess skills of the technique of setting functional tests for animals.
PC-2 ID-12 To know the methodology of sampling and analytical fullfilment of biological material samples for execution of laboratory analyses in accordance with the instructions and methodological documents, regulating the sampling of biological material

PC-12. Organization of the preventive clinical studies of animals, control of the veterinary and sanitary conditions and microclimate of livestock premises in accordance with the plan of antiepizootic measures, plan of the prevention of non-contagious animal diseases. plan of veterinary and sanitary measures

PC-12 ID-4 To be able to carry out clinical studies of animals, using digital technologies as part of the implementation of action plans for the prevention of animal diseases

1. Study of the scar. Topography, research methods.
2. The smell, consistency, shape of feces in healthy animals, their changes in pathology.
3. Grid study. Topography, tests for traumatic reticulitis.
4. Chewing disorder.
5. Study of the book. Topography, basic research methods (auscultation, palpation, percussion, inspection).
6. Study of appetite. Appetite disorder in various pathologies.
7. Study of chewing, swallowing, and their disorders in various pathologies.
8. Book puncture. The purpose of the technique.
9. Study of abomasum. Topography, general research methods, probing techniques
10. Determination of the digestive ability of gastric juice pepsin. Clinical significance
11. Examination of the esophagus. Topography, research methods. Probing (purpose, technique in different animals).
12. Laboratory examination of gastric juice (list). Definition of gastric leukopedesis (describe).
13. Study of the stomach in different species of animals. Topography, basic research methods.
14. Determination of stool pH, stool color in healthy animals, changes in diseases.
15. Abdominal examination.
16. Macroscopic examination of feces (study of physical properties: color, smell, quantity, consistency, shape, impurities)
17. Study of the intestines in cattle. Topography, basic research methods.
18. Obtaining gastric juice from horses using the method of A.M. Smirnov.
19. Examination of the oral cavity (mucous membrane, teeth, tongue and gums).
20. Technique of opening the mouth in different species of animals.
21. Taking stool samples and laboratory testing (list the main studies).

22. Examination of the pharynx. Topography, research methods (external and internal examination). 23. Determination of bilirubin in blood serum. Method, clinical significance.
24. Chemical examination of feces (determination of pH, occult blood, protein, bile pigments). Clinical significance.
25. Study of the liver in cattle. Topography, research by general methods.
26. Microscopic examination of stool. Clinical significance.
27. Study of the spleen in horses and cattle. Topography, basic research methods
28. Pigment metabolism.
29. Examination of the intestines in horses and dogs. Topography. Basic research methods.
30. Study of appetite, its changes?
31. Examination of the stomach in monogastric animals?
32. Thirst and its assessment?
33. Liver examination?
34. Examination of the oral cavity?
35. Abomasum examination?
36. Evaluation of the act of eating food?
37. Grid Study?
38. Study of the intestines in different animal species?
39. Rectal examination in cattle?
40. Rectal examination in horses?
41. Examination of the esophagus?
42. Examination of the pharynx?
43. Book research?
44. Research on chewing gum?
45. Study of the act of defecation?
46. Burp Researchers?
47. Assessing rumination?
48. Assessment of vomiting?
49. Examination of the stomach in monogastric patients?
50. Examination of the pharynx?
51. Study of the intestines and bowel movements?
52. Features of liver examination in horses?
53. Appetite as a sign of gastrointestinal pathology?
54. What is the cause of traumatic reticulitis?

55. Signs characteristic of inflammation of the pharynx?
56. Signs characteristic of dental damage?
57. Technique for gastric probing in monogastric patients?
58. Signs characterizing pharyngeal blockage?
59. Study of the proventriculus in polygastric animals?
60. What is a ruminogram?
61. Method of performing abdomenocentesis in animals

3.1.2 Test-questions

Tests to assess the competence of GPC-6 - ***Is able to analyze, identify and assess the danger of the risk of the occurrence and spread of diseases***

GPC-6 ID-1 – To know existing programs for the prevention and control of zoonoses, contagious diseases, emergent or re-emerging infections, application of animal identification, trace and control systems by relevant veterinary services.

1. **Which invasive fish diseases are dangerous to humans?**
1. Diphyllobothriosis, opisthorchiasis, clonorchiasis, metagonimiasis;
2. Sarcocystosis, opisthorchiasis, clonorchiasis, metagonimiasis;
3. Diphyllobothriosis, opistorchosis, sanguinicolosis, metagonimiasis;
4. Diphyllobothriosis, opisthorchiasis, clonorchiasis, tetracotylosis.

2. Where is meat from animals killed by electrocution and lightning sent?
1. For production of canned meat;
2. To make cooked sausages;
3. After cooking for human consumption;
4. After boiling to feed fur-bearing animals.

3. Which of the following animal diseases are zooanthroponotic?
1. Paratuberculosis, rabies and distemper;
2. Tularemia, brucellosis and melioidosis;
3. tuberculosis, asterellosis, and listeriosis;
4. Leptospirosis, leukaemia and anthrax.

4. In which infectious diseases slaughter of animals for meat is prohibited?
1. Leptospirosis and anthrax;
2. Tuberculosis and listeriosis;
3. Tularemia and melioidosis;
4. Brodzot and leukaemia.

5. Which diseases of birds are of bacterial origin?
1. Newcastle disease, pasteurellosis;
2. Salmonellosis, tuberculosis;
3. Gamboro disease, smallpox;
4. Marek's disease, mycoplasmosis.

6. For which disease horse carcasses can be used after disinfection?
1. Mut;
2. Sap;
3. epizootic lymphangitis;
4. Plague of ungulates.

7. What information is mandatory for filling in "The information on veterinary preventive measures performed on an animal" in the FGIS VetIS component "Horriot"?

1 Disease, date of the event, vaccine used, vaccine dose, vaccine expiry date, place of vaccine administration, data on the institution where the event was conducted;

2 Disease, date and reason for the event, vaccine used, vaccine series and batch number, vaccine dose, vaccine expiry date;

3. Disease, date and reason for the event, vaccine used, vaccine series and batch number, vaccine dose, vaccine expiry date, details of the specialist who conducted the event;

4. Disease, reason for the event, vaccine used, vaccine series and batch number, vaccine expiry date, data of the specialist who conducted the event;

8. What is done with the carcass in case of leptospirosis?

1. In the absence of jaundiced colouring and emaciation is sent for cooking, canning, meat bread;
2. Directed for industrial processing;
3. Technical utilisation;
4. Destroyed by incineration.

9. In which case, if diagnosed animal tuberculosis, slaughter products are released without restrictions?

1. In case of localised lesions of separate organs;
2. In case of positive reaction to tuberculin and absence of clinical signs and pathological and anatomical changes;
3. When only lymph nodes are affected;
4. When reproductive organs are affected.

10. Which microorganisms cause food toxic infections?

1. Salmonella, E. coli, Proteus;
2. Cl. Perfringens, Bacillus cereus, Cl. Botulinum;
3. Streptococcus faecalis, Vibrio parahaemolyticus, Listeria monocytogenes, Campylobacter;
4. Salmonella, E. coli, Proteus, Bacillus anthracis, Cl. Botulinum.

11. What is done with milk from cows positive for brucellosis?

1. Use without restrictions;
2. Boil for 10 minutes and destroy;
3. Pasteurise at 90°C for 5 min;
4. Processed into ghee.

12. What is done with milk from cows with anthrax?

1. Desinfected by adding 1 kg of bleach per 20 litres for 6 hours and destroy it;
2. Boil and use for livestock feed;
3. Boil for 10 minutes and destroy within 3 days of serum administration;
4. Pasteurise at 85°C for 5 minutes within 7 days after serum administration.

13. How is milk from cows with FMD treated?

1. Is used without restriction;

2. Boil for 10 minutes and destroy;
3. Pasteurise at 90°C for 30 min and process into butter and curd;
4. Processed into clarified butter.

14. In which infectious disease meat can be processed into cooked sausages?
1. Salmonellosis;
2. Tuberculosis;
3. Leptospirosis;
4. Listeriosis.

GPC-6 ID-2 - To be able to assess the risk of animal diseases, including the import of animals and animal products and other measures of veterinary services, the control of prohibited substances in the body of animals, animal products and feed..

15. What information is mandatory for filling in "The information on prophylactic use of medicines administered to an animal" in the FGIS VetIS component "Horriot"?
1. Date of drug administration, drug used, active substances, series and batch number of the drug, expiry date, method of administration (enteral or perenatal), dose of the drug, data of the specialist who conducted the event;
2. disease, preparation used, active ingredients, series and batch number of the preparation, expiry date, route of administration (enteral or perinatal), withdrawal period, data of the interventionist;
3. Date of drug administration, drug used, active ingredients, series and batch number of the drug, expiry date, route of administration (enteral or perenatal), dose of the drug, data of the institution where the intervention was conducted;
4. Disease, drug used, active ingredients, series and batch number of the drug, expiry date, route of administration (enteral or perinatal), dose of the drug, details of the specialist who conducted the intervention.

16. What device is used in the biochemical examination of meat for trichinellosis?
1. "Owl";
2. "Steak";
3. "Clover";
4. "Gastros".

17. What instrument is used to determine the milk pH ?
1. "Status";
2. "Lactan";
3. "Clover";
4. "Lactostar".

18. What is the name of the instrument used to determine the freezing point of milk?
1. A refrigerated animograph;
2. Chladometer;
3. Cryoscope;
4. Cryothermoscope.

19. What is the name of the instrument used to determine the number of somatic cells in milk?
1. Somatos;

2. Lactan;
3. Lactoscope;
4. Lactostar.

20. Which events do not provide "information on preventive, therapeutic and other measures" performed using the FGIS VetIS component "Horriot"?
1. Laboratory confirmation;
2. Control measures taken in the outbreak centre;
3. Localisation of the outbreak;
4. Legislative and regulatory framework for outbreak eradication measures.

21. What device is used for luminescence analysis of meat?
1. "Owl";
2. "Gastros";
3. "Steak."
4. "Clover."

22. Which disease prohibits the sale of potatoes and is reported to the phytosanitary inspection?
1. Phytophthora;
2. Potato cancer;
3. Parsha;
4. Ring rot.

23. How many grams of semi-smoked sausage are not allowed to contain bacteria of the genus Salmonella?
1. In 1 gram;
2. 0.1 grams;
3. In 50 grams;
4. In 25 grams.

24. What is done with livestock products stated as dangerous or of poor quality?
1. Stored until the expertise is carried out;
2. Is denatured to exclude use for food and disposed of after examination;
3. In case of poor quality, it may be returned to the owner for use as food for animals after neutralisation;
4. All requirements are fulfilled.

25. What is done with products of plant origin when significant lesions of plant diseases are detected?
1. The lot is rejected and disposed of;
2. It is sold without restriction;
3. sent for processing;
4. Realised after sorting.

26. Which instrument is used to determine the mass fraction of moisture in honey?
1. A refractometer;
2. Polarimeter;
3. Butyrometer;
4. Viscosimeter.

27. Which instrument is used to detect somatic cells in milk?
1. Lactoscope;
2. Lactan;
3. Somatos;
4. Lactostar.

GPC-6 ID-3 – To possess skills for identifying procedures in selecting and implementing measures that can be used to reduce risk.

28. For what purpose should be targeted the carcass in case of leanness?
1. To technical disposal;
2. Industrial processing;
3. for disposal by incineration;
4. To be fed to fur-bearing animals.

29. Meat of which hunting animals should be tested for trichinellosis?
1. Elk and raccoon;
2. Bear and saigak;
3. Wild boar and badger;
4. Wild boar and elk.

30. Which laboratory test is used to determine the species origine of meat?
1. Reaction to OMF;
2. The ring sample;
3. Reaction with Eber's reagent;
4. Qualitative reaction for glycogen.

31. What is done with sausages in case of detection of non-compliance with the requirements of regulatory documents on microbiological safety indicators?
1. Realisation without restriction;
2. Directed for reprocessing;
3. Dispose of;
4. Destroy.

32. What vices and defects of canned food are established by its external signs?
1. Fat melting, leaking, souring;
2. Softening of tissues, souring, "flaps";
3. Deformation, underflow, bombage;
4. Leakage, lanterns, bombage.

33. How can be characterized E. coli growth on Endo's medium?
1. Red colonies with a metallic sheen, the medium turns red;
2. Purple colonies, the colour of the medium does not change;
3. Brown colonies, the medium becomes clearer;
4. Pink colonies, the medium is clarified.

34. **What colour acquires trisugar agar with the indicator "BP" during the growth of Proteus?**
1. Blue;
2. Saffron red;
3. Yellow;
4. Straw.

35. Which nutrient media are used for biochemical typisation of Salmonellae?
1. Tri-sugar agar;
2. Short mottled series media;
3. Long mottled row media;
4. Simpson's environments.

36. On which media is the primary culture for the detection of foodborne toxic infections performed?
1. IPA, Levin's medium, Killian's medium;
2. IPA, trisugar agar, Muller's medium;
3. IPA, Endo medium, Petragnani medium;
4. MPA, Hottinger's MPB, Ploskirev's medium.

37. What is the shape of the pre-inspection stamp?
1. Oval;
2. Round;
3. Rectangular;
4. Square.

38. How many "vet points" should there be on a cattle processing line?
1. Four;
2. Five;
3. three;
4. Seven.

39. How many incisions of the masseter muscle are made to avoide porcine cysticercosis?
1. One;
2. Two;
3. Four;
4. Six.

40. What is done with fish when ligulosis is detected?
1. The fish is sent for technical disposal;
2. In case of severe lesions (more than 10) sent to technical disposal, in case of weak - released after cooking;
3. Release without restriction;
4. In the presence of hydraemia sent for technical disposal, in the absence after gutting release for sale.

Tests for assessment of competence ***GPC-7 – To be able to understand the principles of modern information technologies and use them to solve problems of professional activity.***

GPC-7ID-1 - To know modern technical means and information technologies.

1. What information is stored and processed through "eCert" component of FGIS "VetIS"?
1. Information on the epizootic situation of the place of origin/shipment of controlled goods;
2. Results of veterinary and sanitary expertise, if it is required in respect of controlled goods by the legislation of the Russian Federation, an act constituting the law of the EEU or of the importing country;
3. laboratory tests conducted in laboratories (testing centres), which are part of the system of bodies and institutions of the State Veterinary Service of the Russian Federation, veterinary inspection;
4. All answers are correct.

2. Which component of FGIS "VetIS" is designed to automate the process of licensing pharmaceutical activities and production of medicines intended for animals?
1. "Assol";
2. "Hermes;
3. "Icarus."
4. "Cyrano."

3. Who is the operator of the VetIS system?
1. Federal Service for Veterinary and Phytosanitary Surveillance (Rosselkhoznadzor);
2. State Veterinary Service;
3. Federal Service for Supervision of Consumer Rights Protection and Human Welfare (Rospotrebnadzor);
4. Federal Agency for Technical Regulation and Metrology (Rosstandart).

4. For which livestock products should veterinary accompanying documents be issued in the "Mercury" system?
1. Crustaceans;
2. All finished dairy products;
3. Finished meat products;
4. All answers are correct.

5. What colour will be highlighted on the form of viewing information about the record of warehouse or production logs in the "Vet san expertiza" block of the "Mercury" system?
1. Green;
2. Red;
3. Blue;
4. Yellow.

6. Which component of the FGIS "VetIS" system is designed to analyse information and make analytical reports on the data of the components: "Argus", "Vesta", "Vetis.API", "Mercury", "Passport", "Cerberus"?
1. Horriot;
2. Atlas;

3. Dumas;
4. Icarus.

7. Which national services can use the 'Atlas' component of the FGIS VetIS system?
1. Veterinary administrations of the constituent entities of the Russian Federation;
2. Federal Service for Veterinary and Phytosanitary Surveillance (Rosselkhoznadzor);
3. Other state services;
4. All answers are correct.

8. What systems are referred to as information registers, which contain information on all resources of the FGIS "VetIS" system?
1. "Cerberus";
2. "Assol";
3. "Passport."
4. "Atlas".

9. What is the name of the system used to register users in FGIS "VetIS"?
1. "Tor";
2. "Irena";
3. "Passport."
4. "Dumas."

10. What colour is highlighted in the form "View information on veterinary expert examination" in the "Mercury" system if the products do not comply with regulatory documents?
1. Green;
2. Red;
3. Blue;
4. Grey.

11. How do I enter the volume of products received on paper VADin the Mercury system?
1. inventory - addition - incoming products;
2. inventory - addition - acceptance;
3. Transaction - addition - acceptance;
4. Transaction - addition - input production.

12. What should be done if a single VAD for products in an assortment is received?
1. Carry out acceptance;
2. Carry out acceptance without cancellation;
3. Carry out acceptance with cancellation by product group;
4. Do not tick the incoming WDS.

13. What is referred to information systems that automate the process of FGIS "VetIS"?
1. The "Argus" system;
2. The "Mercury" system;
3. Vesta system;
4. All answers are correct.

14. In which subsystem of "Mercury" is realised the possibility of creation of the act of nonconformity of products?

1. Mercury. ICS;
2. Mercury. GVE;
3. Mercury. TU;
4. Mercury. XC.

15. What subsystems does the Vesta component consist of?
1. Vesta. Acceptance;
2. Vesta. Conducting research;
3. Vesta. Reporting;
4. All answers are correct.

GPC-7 ID-2 – To be able to use modern technical means and information technologies, including elements of machine learning and artificial intelligence, to solve analytical and research problems.

16. What institutions can be users of FGIS "VetIS"?
1. Territorial departments of Rosselkhoznadzor (TU);
2. Processing enterprises;
3. Veterinary clinics;
4. All answers are correct.

17. Which component of FGIS "VetIS" allows to ensure traceability of controlled goods in case of violations of veterinary legislation?
1. "Irena";
2. "Mercury";
3. "Cyrano."
4. "Galen."

18. What information is stored in the "Tor" component of FGIS "VetIS"?
1. about all Rosselkhoznadzor institutions within the structure of Rosselkhoznadzor's information systems;
2. All veterinary service institutions of the constituent entities of the Russian Federation;
3. addresses of subordinate institutions;
4. The addresses of controlled entities.

19. Which component of the FGIS "VetIS" is designed to collect reports in electronic form from institutions reporting to Rosselkhoznadzor, such as laboratories, territorial offices of Rosselkhoznadzor (TU), etc., as well as to aggregate the received data with the possibility of further analysis by employees of the Central Office?
1. "Tor";
2. "Assol";
3. "Horriot."
4. "Cerberus."

20. Which icon is displayed in the "Vesta system" to view the Protocol in the "Examination Log"?
1. magnifying glass;
2. Key;
3. A sheet of paper;
4. Index finger.

21. Which section is not included in the "Vesta" automated laboratory records system?
1. Sample log;
2. A log of studies;
3. method log;
4. equipment.

22. What parameters are used to collect data in the FGIS VetIS component "Assol"?
1. Food monitoring;
2. epizootic monitoring;
3. Cost of research;
4. All answers are correct.

23. Which component of FGIS "VetIS" is designed to automate the process of submission and receipt of information on registration of medicinal products for veterinary use, feed additives for animals?
1. "Icarus;
2. "Irena";
3. "Hermes."
4. "Atlas."

24. What function does the "Ikar component of FGIS VetIS" fulfil?
1. Epizootic monitoring of contagious animal diseases;
2. Tracking of biological waste utilisation;
3. Address data storage in the structure of Rosselkhoznadzor's information systems;
4. Registration of animals.

25. What colour is highlighted in the "View information on veterinary expert examination" form in the Mercury system if the products comply with regulatory documents?
1. Green;
2. Red;
3. Blue;
4. Grey.

26. In which institutions is access to the FGIS VetIS component "Dumas" open for use?
1. Central Administration of Rosselkhoznadzor (CA);
2. territorial bodies of Rosselkhoznadzor; 2;
3. executive authorities of the constituent entities of the Russian Federation;
4. Subordinate agencies within the structure of the veterinary services of the constituent entities of the Russian Federation.

27. What functions does the "Galen" component of the FGIS "VetIS" fulfil?
1. Monitoring of food safety;
2. Monitoring of safety of medicines for veterinary use;
3. monitoring of breeding value of animals;
4. epizootological monitoring.

28. What registers are created and processed in the FGIS VetIS component "Cerberus"?
1. Maintaining the register of supervised facilities;
2. Maintaining the register of enterprises;
3. Maintaining the register of enterprises of the Customs Union;

4. All answers are correct.

GPC-7ID-3 - To possess the skills of using modern technical means and information technologies to solve analytical and research tasks.

29. Which component of FGIS "VetIS" is designed to issue electronic permits for import of controlled goods into the territory of the Russian Federation, its export from the territory of the Russian Federation and its transit through the territory of the Russian Federation?
1. "Cerberus;
2. "Mercury";
3. "Vesta."
4. "Argus".

30. Which technical parameter is a prerequisite for work in the FGIS "VetIS" system?
1. Availability of software;
2. Connection to the "Internet" network;
3. Installation of the application;
4. All answers are correct.

31. For which controlled consignments does "the eCert component" provide functions for certification?
1. When exporting a companion pet;
2. For feed grain and other plant products for livestock exported from the Russian Federation;
3. For meat and meat products of domestic and wild animals exported from the Russian Federation
4. All answers are correct.

32. Which operation is not performed in the VetIS "Mercury" component of FGIS "VetIS" when issuing the VAD for supervised products transported through the territory of the Russian Federation?
1. Adding an entry to the "Journal of incoming products";
2. Submitting an application to the territorial department of Rosselkhoznadzor;
3. Garmenting of the incoming document;
4. Formalising the transport transaction.

33. How is an event automatically created in the FGIS VetIS component "Cyrano"?
1. By the user of "Cyrano";
2. When an urgent report on the form 4 vet B/B is issued in the Vesta system;
3. By the Vesta user;
4. All answers are correct.

34. What functions are not performed in the "FGIS VetIS" component "Assol"?
1. Downloading of reports for Veterinary Departments;
2. Downloading reports for Laboratories;
3. Downloading of veterinary accompanying documents;
4. Downloading the list of veterinary stamps.

35. Which component of FGIS VetIS is designed to automate the process of forming official letters and instructions of Rosselkhoznadzor and sending these letters to the list of

recipients, which reduces the volume of documents transmitted in paper form and, consequently, reduces time and labour costs?
1. "Dumas";
2. "SBiS";
3. "Cerberus."
4. "Hermes".

36. What colour will be highlighted on "the form of viewing information" about the record of warehouse or production logs in the "Vetsanexpertiza" block of the "Mercury" system?
1. Green;
2. Red;
3. Blue;
4. Yellow.

37. What information constitutes a certificate for exported products?
1. Number and date of the incoming document, country of departure, country of destination, information about the specialist who issued the certificate, certified products, HS code, volume and number of places.
2. Number and date of the certificate, country of departure, country of destination, information about the specialist who issued the certificate, certified products, HS code, volume and number of places. 3.
3. certificate number and date of issue, importing country, exporting country, information about the institution that issued the certificate, certified products, HS code, volume and number of places.
4.Certificate number and date of issue, country of departure, country of destination, information on the institution that issued the certificate, certified products, number of cargo places.

38. What is the principle of authentication of exported products from the Russian Federation to foreign countries?
1. By searching in the system for a previously registered certificate;
2. Visualisation of watermarks;
3. By means of search in the database of declared products;
4. Identification of at least 12 security systems for security forms.

39. What operations should be performed to create an act of non-conformity?
1. inventory - reports - add;
2. inventory - product log - add;
3. inventory - examination results - add;
4. inventory - examination results - save;

40. How is the "Vesta" component accessed?
1. By submitting an application to the territorial bodies of Rosselkhoznadzor;
2. By submitting an application to the executive authorities of a constituent entity of the Russian Federation;
3. By submitting an electronic application using the "Passport" component;
4. By submitting an electronic application using the "Dumas" component.

Tests for assessment of competence ***PC-18 - To be able to carry out veterinary and sanitary expertise, to control production and certification of animal husbandry, beekeeping, aquatic fisheries and fodder products, as well as transportation of animals and cargoes during export-import operations to ensure food security, to carry out sanitary assessment of livestock premises and facilities.***

PC-18ID-1 To be able to conduct veterinary and sanitary pre-slaughter inspection of animals and poultry, post-slaughter veterinary and sanitary examination of carcasses and organs; correctly assess the quality and control of agricultural products; assess the suitability of controlled products by organoleptic properties and results of laboratory tests using digital technologies, control the modes of operating parameters of all links of animal raw materials processing; organise and control the loading and transportation of slaughtered animals and cargoes during export-import operations.

1. What products are subject to control at food markets?
1. Animal origin of home production.
2. Animal and vegetable products of domestic and industrial production.
3. Animal and vegetable products of domestic production.
4. Animal origin of industrial production.

2. What products are prohibited for selling in food markets?
1. fruit wines.
2. salted speck.
3. sauerkraut.
4. homemade sausage.

3. What is done with livestock products recognised as dangerous and of poor quality?
stored until expertise;
1. it is denatured to exclude its use in food;
2. disposed of after expert examination;
3. in case of poor quality it may be returned to the owner after neutralisation for use as food for animals;
4. all requirements are fulfilled

4. Meat from which animals will test positive for glycogen?
Cows, horses, cats, dogs;
1. pigs, horses, cats, dogs;
2.sheep, horses, cats, dogs;
3.calf, horse, cat, dog.

5. What is examined to detect cysticerca in pork and beef carcasses?
1. Masseter, tongue, heart, transverse striated muscles of the carcass;
2. masseter, liver, heart, transverse striated muscles of the carcass;
3. masseters, tongue, liver, liver, transverse striated muscles of carcass;
4. masseters, tongue, heart, liver.

6. Trichinelloscopy is mandatory in meat from which animals?
1. pigs, cattle, badgers, bears, nutria;
2. pigs, except for pigs up to 3 weeks of age, wild boars, badgers, bears, nutria;
3. pigs, boars, badgers, bears, nutria;
4. pigs, except ask until 3 weeks of age, boars, badgers, bears.

7. What instrument is used in the biochemical examination of meat for trichinellosis?
1. Owl.
2. Steak.
3. Clover.
4. Gastros.

8. Which indicators characterise fresh meat?
1. drying crust, firm consistency, shiny and elastic tendons, clear broth.
2. drying crust, firm consistency, matt tendons, oily fat, clear broth.
3. drying crust, firm consistency, shiny and elastic tendons, cloudy broth with flakes
4. slimy surface, soft consistency, shiny and elastic tendons, clear broth.

9. In what cases in determining the degree of freshness of mea is used a reaction with Nessler's reagent?
1. In the examination of cattle meat;
2. When examining the meat of poultry, rabbits;
3. In the examination of meat of rabbits;
4. In the examination of poultry meat.

10. What refers to the indicators of fresh fish?
1. dull scales, bloated abdomen, sunken eyeballs, gills grey.
2. shiny scales, the integrity of the abdominal wall is broken, bulging eyeballs, gills bright red.
3. shiny scales, integrity of abdominal wall preserved, convex eyeballs, gills bright red.
4. shiny scales, abdomen collapsed, convex eyeballs, gills bright red.

11. Which invasive fish diseases are dangerous to humans?
1. diphyllobothriosis, opisthorchiasis, clonorchiasis, metagonimiasis;
2. sarcocystosis, opisthorchiasis, clonorchiasis, metagonimiasis;
3. diphyllobothriosis, opisthorchiasis, sanguinicolosis, metagonimiasis;
4. diphyllobothriosis, opisthorchiasis, clonorchiasis, tetracotylosis.

12. What kind of egg is considered a dietary egg?
1. An egg containing all essential amino acids and trace elements;
2. An egg from certain breeds of hens;
3. An egg that has a shelf life of 7 days;
4. Egg with a shelf life of 25 days;

13. What is a "krasiuk"?
1. An enlargement of the puga by more than 9 mm;
2. Drying of the yolk to the shell;
3. Partial mixing of yolk and protein;
4. Complete mixing of yolk with protein.

14. What is sugar honey?
1. honey obtained by feeding sugar syrup to bees;
2. artificially inverted sugar;
3. natural honey with an admixture of granulated sugar;
4. natural honey with an admixture of sugar syrup.

15. What kind of milk is called "whole milk"?
1. raw milk;
2. drinking milk;
3. drinking normalised milk;
4. drinking non-normalised milk.

16. In what case the acceptance of meat products from private individuals is carried out?
1. in the presence of an oval veterinary stamp;
2. in the presence of a veterinary certificate or veterinary certificate;
3. in the presence of a pre-inspection stamp;
4. in the presence of a pre-inspection stamp and a veterinary accompanying document.

17. Which products are analysed in the food section of the VSE laboratory?
1. milk, milk products, honey;
2. milk, dairy products, honey, plant products;
3. milk, dairy products, egg, vegetable products;
4. milk, honey, plant products.

18. In what case trade and public catering enterprises are allowed to sell, receive, process livestock meat ?
1. in the presence of a certificate;
2. in the presence of a rectangular stamp on carcasses "Preliminary inspection";
3. in the presence of a veterinary stamp of oval shape 40 x 60 mm;
4. in the presence of a triangular stamp.

19. At least what value should be the density of milk, kg/m3?
1. 1027.
2. 1027,9.
3. 1026,9.
4. 1028.

20. What is indicated for he bluish tinge of milk?
1. dilution with water;
2. pulmonary tuberculosis;
3. overfeeding with wormwood;
4. storing milk in galvanised containers.

21. What reagent is used to detect soda in milk and milk products?
1. bromthymol blue and roseolaic acid;
2. methylene blue and roseolaic acid;
3. methylene blue and resazurin;
4. bromthymol blue and resorcinol.

22. Which method is used to detect opisthorchis larvae in fish?
1. Pathological autopsy method
2. The method of pathological autopsy and parallel sections.
3. by the parallel incision method.
4. By the compressor method.

23. In what form is it prohibited to sell edible mushrooms in food markets?
1. fresh platy and tubular whole mushrooms;

2. dried whole plate mushrooms;
3. dried tubular whole mushrooms;
4. dried tubular with longitudinal halves.

24. What should be the acidity of natural honey?
1. 5-10 °H;
2. not more than 21°n;
3. not less than 10°n.
4. 1-4°n;

25. The "Record" is used to determine which indicator of milk?
1. determination of fat content in milk;
2. determination of somatic cells in milk;
3. determination of milk purity group;
4. determination of milk acidity.

26. What should be the acidity of sour cream?
1. 12-19°T;
2. 30-50°T;
3. 60-100°T;
4. 170-240°T.

27. The moisture content of cottage cheese should be no higher than which value?
1. 70%;
2. 74%;
2. 80%;
3. 90%.

28. Which reagent is used to control the quality of high temperature pasteurisation of milk?
1. reactions with iodkali starch;
2. with sodium phenolphthaleinphosphate;
3. with 4-aminoantipyrine;
4. with bromthymol blue.

29. Which plant products should be sold only in immature form?
1. greens;
2. bananas;
3. cucumbers and greens;
4. cucumbers, tomatoes.

30. What is a potato disease?
1. cancer;
2. sarcoma;
3. diplostoma;
4. phlegmon.

PC-18 ID-2 To know the state standards in the field of veterinary and sanitary assessment and control of production of safe products of animal husbandry, beekeeping, aquatic fisheries and fodder, as well as products of plant origin; rules of veterinary and sanitary expertise and quality control of food of animal origin; preventive measures to prevent zoonoses; modern

means and methods of disinfection, disinfestation and deratisation of boeing and meat-processing enterprises;norms and rules on organisation and control of transportation of animals, raw materials, products of animal origin, beekeeping products and aquatic fisheries; biology and life cycles of animals - agents of zoonoses, as well as factors favouring their spread; basic concepts and terms in the field of quality assessment of animal slaughter products, their chemical composition, nutritional value, factors forming quality

31. Who are the employees of the VSE laboratory at food markets, subordinated to on special issues?
1. market administration;
2. the market administration and the district FSBW;
3. the district FSBW;
4. the laboratory is independent.

32. What does the owl instrument allow you to do?
1. measure the height of the puga;
2. determine protein density;
3. view an egg in ultraviolet light;
4. view an egg in transmitted light.

33. How are plant products handled when significant lesions characteristic of plant diseases are detected?
1. the lot is rejected and disposed of;
2. realise without restriction;
3. sent for recycling;
4. sold after sorting.

34. On the basis of what is done the acceptance of sausage, ham products and canned meat?
1. Presence of accompanying documents, inspection of tare and vehicle, inspection of the batch of products, organoleptic and laboratory tests;
2. Presence of accompanying documents, inspection of tare and transport means, inspection of production batch;
3. presence of accompanying documents, inspection of the tare and vehicle, inspection of the batch of products, organoleptic tests;
4. Organoleptic and laboratory tests.

35. What is done with canned meat canned meat in the detection of microbiological bombyazh?
1. sent for recycling;
2. destroy;
3. dispose of;
4. sold without restrictions.

36. What is done with products of plant origin when significant lesions characteristic of plant diseases are detected?
1. the batch is rejected and disposed of;
2. sold without restrictions;
3. sent for recycling;
4. sold after sorting.

37. Who refers to butterflies - pests of grain stocks?
1. grain borer;
2. firefly;
3. grain weevil;
4. zinkovka.

38. In what form is it forbidden to realise edible mushrooms in food markets?
1. fresh platy and tubular whole mushrooms;
2. dried plate mushrooms;
3. dried tubular whole mushrooms;
4. dried tubular with longitudinal halves.

39. Which mushrooms are classified as edible?
1. Podberezoviki, opiata, false opiata;
2. chanterelles, opiata, aspen mushrooms;
3. chanterelles, porcini, fly mushrooms;
4. porcini, satanic mushrooms, mosses.

40. How much should be the moisture content of honey?
1. not more than 17%;
2. not more than 19%;
3. not more than 20%;
4. not more than 21%.

41. The content of "oximethylfurfural" in honey indicates:
1. its naturalness;
2. its adulteration;
3. an impurity of fallen honey;
4. admixture of sugar.

42. What are food toxicoses?
1. food poisoning;
2. poisoning by plant products;
3. poisoning by medicines;
4. pesticide poisoning.

43. What normative documents regulate the methods of bacteriological research for detection of pathogens of food toxicoinfections?
1. Methodological guidelines
2. Technical regulations
3. State standards
4. Federal Laws

3.1.3 Topics for preparation of reports

The structure of the report on the section "Transportation of slaughtered animals" for each of the presented topics allows you to form competencies and its identifiers:

GPC -6

Student is able to analyze, identify and assess the danger of the risk of the occurrence and spread of diseases

GPC-6 ID-1

Student knows the existing programs for the prevention and control of zoonoses, contagious diseases, emergent or newly emerging infections, use of animal identification systems, trace and control by the relevant veterinary services.

GPC-6 ID-2

Student is able to assess the risk of animal diseases, including the import of animals and animal products and other measures of veterinary services, the control of prohibited substances in the body of animals, animal products and feed..

GPC-6 ID-3

Student has the skills to carry out identification procedures, select and implement measures that can be used to reduce the level of risk

GPC-7

Student is able to understand the principles of modern information technologies and use them to solve professional tasks

GPC-7 ID-1 Student knows modern technical means and information technologies.

GPC-7 ID-2 Student is able to use modern technical means and information technologies, including elements of machine learning and artificial intelligence, to solve analytical and research tasks.

GPC-7 ID-3 Student has the skills to use modern technical means and information technologies to solve analytical and research problems.

PC-18

Student is able to conduct veterinary and sanitary examinations, control the production and certification of livestock, beekeeping, aquaculture fisheries, and feed products, as well as carry animals and cargo during export and import activities to ensure food safety. Also perform a sanitary inspection of livestock facilities and structures.

PC-18 ID-1 Student is be able to perform veterinary and sanitary inspections on animals and poultry before slaughter, as well as post-slaughter examinations of carcasses and organs. Student is able to correctly assess the quality of agricultural products and control its production. Student can assess the goodness of controlled products based on organoleptic properties and laboratory results, using digital technologies. They are able to control the operating parameters for all stages of processing livestock raw materials. They could organize and control the loading and transportation of slaughtered animals, raw materials, and products of animal or vegetable origin. They are be able to determine the species of meat, conduct bacteriological analyses of meat and meat products, and use methods for technochemical control of canned animal and vegetable products.

PC-18 ID-2 Student knows the standards in the field of veterinary and sanitary assessment, control, and production of safe animal products, including beekeeping, aquaculture, and feed; as well as plant-based products; the rules for veterinary and sanitary inspectionand quality control of animal-derived food; preventive measures of zoonoses ; modern methods and means of disinfection, insecticide use, and rodent control in slaughterhouses and meat-processing facilities; norms and regulations for the transportation of animals, raw materials, animal-derived products, bee products, and aquaculture products; knowledge of the biology and life cycle of animals that can cause zoonotic diseases, as well as the factors that contribute to their spread; and an understanding of the basic concepts

and terminology used in the assessment of the quality of meat products, their chemical composition and nutritional value, and factors that influence quality.

1. Transportation of 600 head of cattle by driving over a distance of 23 km. Along the way, two animals fell (diagnosed with tympania).
2. Transportation of 400 head of cattle by driving over a distance of 34 km in autumn.
3. Transportation of 1400 head of sheep by driving over a distance of 70 km over rough terrain.
4. Transportation of 150 head of cattle bydriving over a distance of 30 km. Along the way, one animal fell (diagnosed with anthrax).
5. Transportation of 7,000 head of geese by driving over a distance of 9 km.
6. Transportation of 650 head of cattle by rail over a distance of 600 km.
7. Transportation of 180 head of cattle by rail over a distance of 1100 km in winter (temperature below minus 25 °C).
8. Transportation of 850 head of gilts by rail over a distance of 500 km. On the way, one animal fell (diagnosis of porcine erysipelas).
9. Transportation of 900 head of cattle by rail over a distance of 700 km. The station is 15 km from the farm.
10. Transportation of 350 head of pigs by rail over a distance of 600 km. The station is 15 km from the farm.
11. Transportation of 350 head of sheep by rail over a distance of 500 km. Two animals died en route (diagnosed with anaerobic enterotoxaemia).
12. Transportation of 1080 head of pigs by rail over a distance of 450 km in summer (temperatures above 25 ° C).
13. Transportation of 150 head of pigs by rail over a distance of 900 km. Along the way, three animals fell (diagnosed with heat stroke).
14. Transportation of 10,000 head of poultry heads by rail transport for 950 km.
15. Transportation of 40,000 head of poultry heads by water transport for 90 km.
16. Transportation of 70 head of horses by road over a distance of 180 km.
17. Transportation of 300 head of cattle by road over a distance of 290 km.
18. Transportation of 750 head of pigs by road over a distance of 95 km.
19. Transportation of 550 head of sheep by road over a distance of 210 km.
20. Transportation of 7 tons of live fish by road over a distance of 150 km.

The structure of the report in the section "**Veterinary and sanitary examination of carcasses and organs of animals and poultry for infectious, invasive and non-infectious diseases as well as poisoning.**" for each of the presented topics allows students to form competencies:

GPC-6

Student is able to analyze, identify and assess the danger of the risk of the occurrence and spread of diseases

GPC-6 ID-1

Student knows the existing programs for the prevention and control of zoonoses, contagious diseases, emergent or newly emerging infections, the use of animal identification systems, tracing and control by the relevant veterinary services.

GPC-6 ID-2

Student is able to assess the risk of animal diseases, including the import of animals and animal products and other measures of veterinary services, the control of prohibited substances in the body of animals, animal products and feed..

GPC-6 ID-3

Student has the skills to carry out identification procedures, select and implement measures that can be used to reduce the level of risk

GPC-7

Student is able to understand the principles of modern information technologies and use them to solve professional tasks

GPC-7 ID-1 Studentknows modern technical means and information technologies.

GPC-7 ID-2 Student is able to use modern technical means and information technologies, including elements of machine learning and artificial intelligence, to solve analytical and research tasks.

GPC-7 ID-3 Student has the skills to use modern technical means and information technologies to solve analytical and research problems.

PC-18 Student can conduct veterinary and sanitary examinations, control the production and certification of livestock, beekeeping, aquaculture fisheries, and feed products, as well as carry animals and cargo during export and import activities to ensure food safety. It can also perform a sanitary inspection of livestock facilities and structures.

PC-18 ID-1 Student is be able to perform veterinary and sanitary inspections on animals and poultry before slaughter, as well as post-slaughter examinations of carcasses and organs. Student should also be able to correctly assess the quality of agricultural products and control their production. Student can assess the suitability of controlled products based on organoleptic properties and laboratory results, using digital technologies. They should be able to control the operating parameters for all stages of processing livestock raw materials. They should organize and control the loading and transportation of slaughtered animals, raw materials, and products of animal or vegetable origin. They should be able to determine the species of meat, conduct bacteriological analyses of meat and meat products, and use methods for technochemical control of canned animal and vegetable products.

PC-18 ID-2 Student knows the standards in the field of veterinary and sanitary assessment, control, and production of safe animal products, including beekeeping, aquaculture, and feed; as well as plant-based products; the rules for veterinary and sanitary inspection and quality control of animal-derived food; preventive measures for zoonoses prevention; modern methods and means of disinfection, insecticide use, and rodent control in slaughterhouses and meat-processing facilities; norms and regulations for the transportation of animals, raw materials, animal-derived products, bee products, and aquaculture products; knowledge of the biology and life cycle of animals that can cause zoonotic diseases, as well as the factors that contribute to their spread; and an understanding of the basic concepts and terminology used in the assessment of the quality of meat products, their chemical composition and nutritional value, and factors that influence quality.

1. Veterinary and sanitary examination and assessment of carcasses and organs in infectious diseases (classical and African swine fever, hog erysipelas, Teschen's disease).

2. Veterinary examination and assessment of carcasses and organs in tetanus and pasteurellosis.

3. Veterinary and sanitary examination and evaluation of carcasses and organs in brucellosis.

4. Veterinary examination, evaluation of carcasses and organs in tuberculosis.

5. Veterinary and sanitary examination and assessment of carcasses and organs in case of foot-and-mouth disease and smallpox.

6. Veterinary and sanitary examination and assessment of carcasses and organs in infectious diseases of horses (sap, myt, epizootic lymphongaitis).

7. Activities in the slaughter and cutting shop in case of suspected anthrax.

8. Veterinary and sanitary examination and evaluation of carcasses and organs obtained from animals with non-communicable diseases.

9. Veterinary and sanitary examination and veterinary assessment of meat and slaughter products for botulism and its prevention.

10. Veterinary examination and evaluation of milk in leptospirosis, necrobacteriosis and rabies.

11. Veterinary and sanitary examination and evaluation of carcasses and organs obtained from animals with invasive diseases that are not dangerous to humans.

12. Veterinary and sanitary examination, assessment of carcasses and organs in hemosporidiosis, fascioliasis, echinococcosis.

13. Veterinary and sanitary examination and evaluation of slaughter products and milk from animals sick and vaccinated against anthrax.

14. Veterinary and sanitary examination and evaluation of slaughter products and milk from animals sick and responding to leukemia.

15. Veterinary and sanitary examination and evaluation of poultry meat, eggs, down and feathers in viral diseases of birds (infectious laryngotracheitis, infectious bronchitis, smallpox, leukemia, Marek's disease, influenza, Newcastle disease).

16. Veterinary and sanitary examination and evaluation of poultry meat, eggs, down and feathers in bacterial diseases of birds (pasteurellosis, pullorosis – typhus, tuberculosis, salmonellosis, colibacteriosis, staphylococcosis).

17. Veterinary assessment of animal carcasses that died from accidental causes (electric shock, lightning, heat stroke, drowning, etc.).

18. Veterinary and sanitary examination and evaluation of carcasses and organs in parathuberculosis and actinomycosis.

19. Veterinary and sanitary examination and evaluation of carcasses and organs in leptospirosis and listeriosis.

20. Veterinary and sanitary examination of animal meat in case of poisoning with salts of heavy metals and radioactive isotopes.

21. Veterinary and sanitary examination of meat and milk in case of poisoning of animals with pesticides, their assessment.

3.1.4. Subjects of personal control work

GPC-6

Student is able to analyze, identify and assess the danger of the risk of the occurrence and spread of diseases

GPC-6 ID-1

Student knows the existing programs for the prevention and control of zoonoses, contagious diseases, emergent or newly emerging infections, the use of animal identification systems, tracing and control by the relevant veterinary services.

GPC-6 ID-2

Student is able to assess the risk of animal diseases, including the import of animals and animal products and other measures of veterinary services, the control of prohibited substances in the body of animals, animal products and feed.

GPC-6 ID-3

Student possess the skills to carry out identification procedures, select and implement measures that can be used to reduce the level of risk

GPC-7

Student is able to understand the principles of modern information technologies and use them to solve professional tasks

GPC-7 ID-1 Student knows modern technical means and information technologies.

GPC-7 ID-2 Student is able to use modern technical means and information technologies, including elements of machine learning and artificial intelligence, to solve analytical and research tasks.

GPC-7 ID-3 Student has the skills to use modern technical means and information technologies to solve analytical and research problems.

PC-18

Student can conduct veterinary and sanitary examinations, control the production and certification of livestock, beekeeping, aquaculture fisheries, and feed products, as well as carry animals and cargo during export and import activities to ensure food safety. It can also perform a sanitary inspection of livestock facilities and structures.

PC-18 ID-1 Student is be able to perform veterinary and sanitary inspections on animals and poultry before slaughter, as well as post-slaughter examinations of carcasses and organs. Student should also be able to correctly assess the quality of agricultural products and control their production. Student can assess the suitability of controlled products based on organoleptic properties and laboratory results, using digital technologies. They should be able to control the operating parameters for all stages of processing livestock raw materials. They should organize and control the loading and transportation of slaughtered animals, raw materials, and products of animal or vegetable origin. They should be able to determine the species of meat, conduct bacteriological analyses of meat and meat products, and use methods for techno-chemical control of canned animal and vegetable products.

PC-18 ID-2 Student knows the standards in the field of veterinary and sanitary assessment, control, and production of safe animal products, including beekeeping, aquaculture, and feed; as well as plant-based products; the rules for veterinary and sanitary inspection and quality control of animal-derived food; preventive measures for zoonoses prevention; modern methods and means of disinfection, insecticide use, and rodent control in slaughterhouses and meat-processing facilities; norms and regulations for the transportation of animals, raw materials, animal-derived products, bee products, and aquaculture products; knowledge of the biology and life cycle of animals that can cause zoonotic diseases, as well as the factors that contribute to their spread; and an understanding of the basic concepts

and terminology used in the assessment of the quality of meat products, their chemical composition and nutritional value, and factors that influence quality.

Variant 1

1. Organization and methodology of post-slaughter veterinary examination of carcasses and organs. The lymphatic system and its significance in the veterinary examination of carcasses and organs. Briefly describe (shape, size, color) and make a schematic sketch of the topography of the lymph nodes of the head, internal organs and pig carcass.

2. Veterinary and sanitary examination and assessment of carcasses and organs for the detection of bacteria of the genus Salmonella and conditionally pathogenic microflora.

3. Veterinary and sanitary requirements for the transportation of perishable products.

4. Veterinary and sanitary examination of eggs.

5. Veterinary and sanitary examination of meat of animals subjected to emergency slaughter - emergency slaughter of animals in your farm (place and method of slaughter, causes, technology of slaughter, transportation of meat, ways of meat sale).

Variant 2

1. Organization and methodology of post-slaughter veterinary examination of carcasses and organs. The lymphatic system and its significance in the veterinary examination of carcasses and organs. Briefly describe (shape, size, color) and make a schematic sketch of the topography of the lymph nodes of the head, internal organs and carcasses of cattle.

2. Veterinary and sanitary examination and sanitary assessment of carcasses and organs in brucellosis. The use of milk from animals reacting to brucellosis.

3. Veterinary and sanitary requirements for slaughtered animals. Product characteristics.

4. Veterinary and sanitary examination of milk. Veterinary and sanitary examination of milk and dairy products in food markets.

5. Veterinary and sanitary examination of meat of animals subjected to emergency slaughter - emergency slaughter of animals in your farm (place and method of slaughter, causes, technology of slaughter, transportation of meat, ways of meat sale).

Variant 3

1. Organization and methodology of post-slaughter veterinary examination of carcasses and organs. The lymphatic system and its significance in the veterinary examination of carcasses and organs. Briefly describe (shape, size, color) and make a schematic sketch of the topography of the lymph nodes of the head, internal organs and carcass of the horse.

2. Veterinary and sanitary examination and sanitary assessment of carcasses and organs in tuberculosis. The use of milk from animals responding to tuberculosis.

3. In which cases animals are not allowed to be slaughtered for meat. You should justify the reasons.

4. Veterinary and sanitary examination of sausage products.

5. Veterinary and sanitary examination of meat of animals subjected to emergency slaughter - emergency slaughter of animals in your farm (place and method of slaughter, causes, technology of slaughter, transportation of meat, ways of meat sale).

Variant 4

1. Organization and methodology of post-slaughter veterinary examination of carcasses and organs. The lymphatic system and its significance in the veterinary examination of carcasses and organs. Briefly describe (shape, size, color) and make a schematic sketch of the topography of the lymph nodes of the head, internal organs and carcasses of small cattle.

2. Veterinary and sanitary examination and sanitary assessment of carcasses and organs in case of foot-and-mouth disease.

3. Hygiene of milk production on dairy farms and veterinary and sanitary requirements for them.

4. Veterinary and sanitary examination of honey.

5. Veterinary and sanitary examination of meat of animals subjected to emergency slaughter - emergency slaughter of animals in your farm (place and method of slaughter, causes, technology of slaughter, transportation of meat, ways of meat sale).

Variant 5

1. Organization and methodology of post-slaughter veterinary examination of carcasses and organs. The lymphatic system and its significance in the veterinary examination of carcasses and organs. Briefly describe (shape, size, color) and make a schematic sketch of the topography of the lymph nodes of the head, internal organs and carcasses of rabbits and nutria.

2. Veterinary and sanitary examination and sanitary assessment of carcasses and organs in hemosporidiosis, fascioliasis, echinococcosis.

3. The device of a mechanized meat processing plant. Veterinary and sanitary requirements for the premises of workshops.

4. Veterinary and sanitary examination of fish.

5. Veterinary and sanitary examination of meat of animals subjected to emergency slaughter - emergency slaughter of animals in your farm (place and method of slaughter, causes, technology of slaughter, transportation of meat, ways of meat sale).

Variant 6

1. Organization and methodology of post-slaughter veterinary examination of carcasses and organs. The lymphatic system and its significance in the veterinary examination of carcasses and organs. Briefly describe (shape, size, color) and make a sketch diagram of the anatomical and topographic structure of the lymph nodes of carcasses and internal organs of cattle.

2. Trichinosis. Veterinary and sanitary examination and sanitary assessment of carcasses and organs in trichinosis.

3. Categories of meat according to their thermal condition and hygienic characteristics.

4. Veterinary and sanitary examination of canned products.

5. Veterinary and sanitary examination of meat of animals subjected to emergency slaughter - emergency slaughter of animals in your farm (place and method of slaughter, causes, technology of slaughter, transportation of meat, ways of meat sale).

Variant 7

1. Organization and methodology of post-slaughter veterinary examination of carcasses and organs. The lymphatic system and its significance in the veterinary examination of carcasses

and organs. Briefly describe (shape, size, color) and make a schematic sketch of the topography of the lymph nodes of the head, internal organs and carcasses of pigs.

2. Measures for the detection of anthrax carcass in the slaughter and cutting plant.

3. Veterinary medical examination of meat and milk in case of animal poisoning and its assessment.

4. Methods and modes of processing animal meat to be disinfected.

5. Veterinary and sanitary examination of meat of animals subjected to emergency slaughter - emergency slaughter of animals in your farm (place and method of slaughter, causes, technology of slaughter, transportation of meat, ways of meat sale).

Variant 8

1. Organization and methodology of post-slaughter veterinary examination of carcasses and organs. The lymphatic system and its significance in the veterinary examination of carcasses and organs. Briefly describe (shape, size, color) and make a sketch diagram of the anatomical and topographic structure of the lymph nodes of the head, carcass and internal organs of the horse.

2. Principles of veterinary and sanitary examination of products of slaughter of farm animals in zooanthroponoses.

3. Primary milk processing. Milk indicators and their characteristics.

4. Veterinary and sanitary examination of mushrooms.

5. Veterinary and sanitary examination of meat of animals subjected to emergency slaughter - emergency slaughter of animals in your farm (place and method of slaughter, causes, technology of slaughter, transportation of meat, ways of meat sale)

Variant 9

1. Organization and methodology of post-slaughter veterinary examination of carcasses and organs. Determination of the species of cattle slaughter products.

2. Pre- and post-slaughter diagnosis of tuberculosis of farm animals and poultry. Sanitary assessment of carcasses and organs. Sanitary evaluation of milk.

3. Transportation of slaughtered animals by rail and the tasks of the veterinary service. Processing of wagons after unloading of animals and raw materials of animal origin.

4. Veterinary and sanitary examination of fish.

5. Veterinary and sanitary examination of meat of animals subjected to emergency slaughter - emergency slaughter of animals in your farm (place and method of slaughter, causes, technology of slaughter, transportation of meat, ways of meat sale).

Variant 10

1. Organization and methodology of post-slaughter veterinary examination of carcasses and organs. Determination of the meat of sick, fallen and killed animals in the pre-mortal state.

2. Veterinary and sanitary examination of meat and milk in case of poisoning of animals and their assessment.

3. State veterinary supervision in food markets.

4. Veterinary and sanitary examination of meat. Methods of meat quality testing.

5. Veterinary and sanitary examination of meat of animals subjected to emergency slaughter - emergency slaughter of animals in your farm (place and method of slaughter, causes, technology of slaughter, transportation of meat, ways of meat sale).

Variant 11

1. Organization and methodology of post-slaughter veterinary examination of carcasses and organs. The lymphatic system and its significance in the veterinary examination of carcasses and organs. Briefly describe (shape, size, color) and make a sketch diagram of the anatomical and topographic structure of the lymph nodes of small cattle.

2. Trichinosis. Veterinary and sanitary examination and evaluation of slaughter products.

3. Principles of veterinary examination of products of slaughter of farm animals in zooanthroponoses.

4. Veterinary and sanitary examination of milk. The bactericidal phase of milk and its significance. Methods of cooling milk. Veterinary and sanitary examination of milk.

5. Veterinary and sanitary examination of meat of animals subjected to emergency slaughter - emergency slaughter of animals in your farm (place and method of slaughter, causes, technology of slaughter, transportation of meat, ways of meat sale).

Variant 12

1. Organization and methodology of post-slaughter veterinary examination of carcasses and organs. The lymphatic system and its significance in the veterinary examination of carcasses and organs. Briefly describe (shape, size, color) and make a schematic sketch of the topography of the lymph nodes of the head, internal organs and carcasses of cattle.

2. Principles of veterinary examination of products of slaughter of farm animals in tetanus and pasteurellosis.

3. Veterinary and sanitary examination of milk and dairy products in food markets. Requirements of regulatory documents.

4. Veterinary and sanitary examination of honey.

5. Veterinary and sanitary examination of meat of animals subjected to emergency slaughter - emergency slaughter of animals in your farm (place and method of slaughter, causes, technology of slaughter, transportation of meat, ways of meat sale).

Variant 13

1. Organization and methodology of post-slaughter veterinary examination of carcasses and organs. The lymphatic system and its significance in the veterinary examination of carcasses and organs. Briefly describe (shape, size, color) and make a schematic sketch of the topography of the lymph nodes of the head, internal organs and pig carcass.

2. Veterinary and sanitary examination for cysticercosis of cattle and pigs. Post-slaughter differential diagnosis. Sanitary assessment of carcasses and organs.

3. The order of reception, hygiene of storage and veterinary examination of products from refrigerators.

4. Veterinary and sanitary examination of sausage products.

5. Veterinary and sanitary examination of meat of animals subjected to emergency slaughter - emergency slaughter of animals in your farm (place and method of slaughter, causes, technology of slaughter, transportation of meat, ways of meat sale).

Variant 14

1. Organization and methodology of post-slaughter veterinary examination of carcasses and organs. The lymphatic system and its significance in the veterinary examination of carcasses and organs. Briefly describe (shape, size, color) and make a schematic sketch of the topography of the lymph nodes of the head, internal organs and carcass of the horse.

2. Veterinary examination and evaluation of carcasses and organs in paratuberculosis and actinomycosis.

3. Branding of meat in meat processing plants, in laboratories of veterinary medical examination of markets, its significance.

4. Veterinary and sanitary examination of milk. Primary processing of milk, indicators that determine its grade.

5. Veterinary and sanitary examination of meat of animals subjected to emergency slaughter - emergency slaughter of animals in your farm (place and method of slaughter, causes, technology of slaughter, transportation of meat, ways of meat sale).

Varint 15

1. Organization and methodology of post-slaughter veterinary examination of carcasses and organs. The lymphatic system and its significance in the veterinary examination of carcasses and organs. Briefly describe (shape, size, color) and make a schematic sketch of the topography of the lymph nodes of the head, internal organs and carcasses of small cattle.

2. Leukemia. Pre- and post-slaughter diagnostics. Veterinary and sanitary examination and sanitary assessment of carcasses and organs.

3. Veterinary and sanitary requirements for the transportation of perishable livestock products.

4. Veterinary and sanitary examination of fish. Invasive fish diseases transmitted to humans. Sanitary assessment.

5. Veterinary and sanitary examination of meat of animals subjected to emergency slaughter - emergency slaughter of animals in your farm (place and method of slaughter, causes, technology of slaughter, transportation of meat, ways of meat sale).

Variant 16

1. Organization and methodology of post-slaughter veterinary examination of carcasses and organs. Determination of the meat of sick, fallen and killed in the agonal state animals.

2. Features of post-slaughter inspection of poultry carcasses and feathered birds. Sanitary assessment of slaughter products for infectious diseases: tuberculosis, salmonellosis, pasteurellosis, plague, etc.

3. The technology of production of sausages. Veterinary and sanitary examination of sausages.

4. Veterinary and sanitary examination of plant products. Veterinary and sanitary examination of mushrooms.

5. Veterinary and sanitary examination of meat of animals subjected to emergency slaughter - emergency slaughter of animals in your farm (place and method of slaughter, causes, technology of slaughter, transportation of meat, ways of meat sale).

Variant 17

1. The lymphatic system and its significance in the veterinary examination of carcasses and organs. Briefly describe (shape, size, color) and make a schematic sketch of the topography of the lymph nodes of the head, internal organs and carcasses of cattle.

2. Veterinary and sanitary examination and evaluation of milk obtained from animals with emcar, rabies, mastitis.

3. Features of veterinary and sanitary examination of meat and meat products in the markets (documentation, delivery rules, inspection sequence and research methods).

4. Veterinary and sanitary examination of meat of game animals. Disinfection methods and the use of conditionally suitable meat.

5. Veterinary and sanitary examination of meat of animals subjected to emergency slaughter - emergency slaughter of animals in your farm (place and method of slaughter, causes, technology of slaughter, transportation of meat, ways of meat sale).

Variant 18

1. Organization and methodology of post-slaughter veterinary examination of carcasses and organs. The lymphatic system and its significance in the veterinary examination of carcasses and organs. Briefly describe (shape, size, color) and make a schematic sketch of the topography of the lymph nodes of the head, internal organs and carcasses of rabbits and nutria.

2. Salmonellosis. Pre- and post-slaughter diagnostics. Sanitary assessment of carcasses and organs.

3. Pre-slaughter and post-slaughter diagnosis of brucellosis of farm animals. Sanitary assessment of carcasses and organs.

4. Veterinary and sanitary examination of eggs.

5. Veterinary and sanitary examination of meat of animals subjected to emergency slaughter - emergency slaughter of animals in your farm (place and method of slaughter, causes, technology of slaughter, transportation of meat, ways of meat sale).

Variant 19

1. Organization and methodology of post-slaughter veterinary examination of carcasses and organs. Determination of the meat of sick, fallen and killed in the agonal state animals.

2. Brief description of microorganisms that cause foodborne toxico-infections and toxicoses. Sanitary assessment of carcasses and organs during their isolation and its justification.

3. Methods and modes of disinfection of milk of sick animals and ways of its implementation (for major infectious diseases, mastitis, poisoning, treated with antibiotics).

4. Veterinary and sanitary examination of poultry meat.

5. Veterinary and sanitary examination of meat of animals subjected to emergency slaughter - emergency slaughter of animals in your farm (place and method of slaughter, causes, technology of slaughter, transportation of meat, ways of meat sale).

Variant 20

1. Organization and methodology of post-slaughter veterinary examination of carcasses and organs. The lymphatic system and its significance in the veterinary examination of carcasses and organs. Briefly describe (shape, size, color) and make a schematic sketch of the topography of the lymph nodes of the head, internal organs and pig carcass.

2. Differential diagnosis of plague, erysipelas and pasteurellosis. Sanitary assessment of carcasses and organs.

3. Requirements for the delivery of dairy (Sour milk, sour cream, cottage cheese, butter) products and their veterinary and sanitary examination in the markets.

4. Veterinary and sanitary examination of meat. The essence of the process of spoiling meat (rotting, mold, donkey, sunburn). Sanitary assessment.

5. Veterinary and sanitary examination of meat of animals subjected to emergency slaughter - emergency slaughter of animals in your farm (place and method of slaughter, causes, technology of slaughter, transportation of meat, ways of meat sale).

3.2. Standard tasks for intermediate certification

3.2.1. Questions for the test

The competence achieved:

GPC-6

Student is able to analyze, identify and assess the danger of the risk of the occurrence and spread of diseases

GPC-6 ID-1

Student knows the existing programs for the prevention and control of zoonoses, contagious diseases, emergent or newly emerging infections, the use of animal identification systems, tracing and control by the relevant veterinary services.

1. Organization and importance of pre-slaughter animal husbandry.
2. Veterinary and sanitary assessment of fresh, doubtful freshness, stale meat.
3. Sanitary requirements for the slaughtering plant.
4. Features of veterinary and sanitary examination of pig carcasses and organs at meat processing plants and workplaces of veterinary and sanitary examination of slaughter products.

GPC-6 ID-2

Student is able to assess the risk of animal diseases, including the import of animals and animal products and other measures of veterinary services, the control of prohibited substances in the body of animals, animal products and feed.

1. Veterinary branding of meat.
2. Determination of the goodness of edible ghee animal fats.
3. The resistance of Salmonella bacteria to physico-chemical factors and the practical significance of this property.
4. Secondary salmonellosis of animals and their role in the occurrence of food toxicoinfections.
5. Classification of foodborne diseases and their characteristics.

GPC-6 ID-3

Student has the skills to carry out identification procedures, select and implement measures that can be used to reduce the level of risk

1. The grounds for mandatory bacteriological examination of meat.
2. Serological typification of salmonella.
3. Organization of post-slaughter veterinary and sanitary examination of slaughter products.
4. Maturation of meat. The essence and meaning.
5. Tasks of the veterinary service at meat processing companies.
6. Organization and features of veterinary and sanitary examination of wild animal meat.
7. Features of pre- and post-slaughter examination of pigs, ungulates, rabbits, calves.
8. Features of veterinary and sanitary examination of calves, the difference between the meat of calves older than 2 weeks of age from immature and stillborn.

GPC-7

Student is able to understand the principles of modern information technologies and use them to solve professional tasks

GPC-7 ID-1 Student knows modern technical means and information technologies.

1. Foodborne diseases of microbial origin and its prevention.
2. In which cases a microbiological examination of meat is carried out, the scheme of the study.
3. Classification of meat processing enterprises. The device of stationary and field slaughter stations and veterinary and sanitary requirements for them.

GPC-7 ID-2 Student is able to use modern technical means and information technologies, including elements of machine learning and artificial intelligence, to solve analytical and research tasks.

1. Veterinary and sanitary examination of meat in case of sunburn and mold formation. Veterinary and sanitary assessment and prevention.
2. Veterinary and sanitary examination and evaluation of meat in case of donkey and rotting.
3. Methods of meat freshness testing. Meat categories according to the degree of freshness.

GPC-7 ID-3 Student has the skills to use modern technical means and information technologies to solve analytical and research problems.

1. Organization of post-slaughter veterinary and sanitary examination of carcasses and organs in the slaughter and cutting shop and its significance.
2. Veterinary and sanitary examination of canned meat.
3. Veterinary and sanitary examination of sausage products.
4. Sanitary assessment of meat and finished products in the identification of pathogens of food toxicoinfections.

PC-18

Student can carry out veterinary and sanitary examinations, control the production and certification of livestock, beekeeping, aquaculture fisheries, and feed products, as well as carry animals and cargo during export and import activities to ensure food safety. It can also perform a sanitary inspection of livestock facilities and structures.

PC-18 ID-1 Student is be able to perform veterinary and sanitary inspections on animals and poultry before slaughter, as well as post-slaughter examinations of carcasses and organs. Student should also be able to correctly assess the quality of agricultural products and control their production. Student can assess the suitability of controlled products based on organoleptic properties and laboratory results, using digital technologies. They should be able to control the operating parameters for all stages of processing livestock raw materials. They should organize and control the loading and transportation of slaughtered animals, raw materials, and products of animal or vegetable origin. They should be able to determine the species of meat, conduct bacteriological analyses of meat and meat products, and use methods for technochemical control of canned animal and vegetable products.

1. The lymphatic system and its importance in the veterinary and sanitary examination of carcasses and organs. Topography of lymph nodes of the head, carcass and internal organs in pigs.
2. Topography of lymph nodes of the head, carcass and internal organs of cattle.
3. The method of post-slaughter examination of the head, internal organs, carcasses of cattle.
4. The method of post-slaughter examination of the head, internal organs, carcasses of pigs.
5. Methods of post-slaughter veterinary and sanitary examination of carcasses and organs of poultry.
6. Trichinelloscopy of meat.
7. A biochemical method for examining meat for trichinosis.
8. Veterinary and sanitary examination of cattle and pig meat in cysticercosis.
9. Organoleptic methods for detecting the meat of sick animals.
10. Physico-chemical and microscopic methods for detecting the meat of sick animals.
11. Organoleptic methods of meat freshness testing.
12. Physico-chemical and microscopic methods of meat freshness testing.
13. Examination of rabbit and poultry meat for freshness.
14. Determination of varietal indicators of edible ghee animal fats.
15. Determination of the species of edible ghee animal fats.
16. Subjective methods of determining the species of meat.
17. Objective methods for determining the species of meat.

PC-18 ID-2 Student knows the standards in the field of veterinary and sanitary assessment, control, and production of safe animal products, including beekeeping, aquaculture, and feed; as well as plant-based products; the rules for veterinary and sanitary inspection and quality control of animal-derived food; preventive measures for zoonoses prevention; modern methods and means of disinfection, insecticide use, and rodent control in slaughterhouses and meat-processing facilities; norms and regulations for the transportation of animals, raw materials, animal-derived products, bee products, and aquaculture products; knowledge of the biology and life cycle of animals that can cause zoonotic diseases, as well as the factors that contribute to their spread; and an understanding of the basic concepts and terminology used in the assessment of the quality of meat products, their chemical composition and nutritional value, and factors that influence quality.

1. Trichinosis. Characteristics of the pathogen. The biological cycle of trichinella development.
2. Cysticercosis. Characteristics of the pathogen. The biological cycle of development of bovine and pig chains.
3. Methods for detecting the meat of the sick, fallen and killed in the agonal state.
4. Features of veterinary and sanitary examination of meat and slaughter products of ungulates.

5. The scheme of primary sowing. The media used, the sowing technique.

6. Accounting for primary crops. Characteristics of the growth of pathogens of foodborne toxic infections in simple and elective media.

7. Study of the biochemical properties of pathogens of food toxicoinfections on triple sugar iron agar.

8. The study of the biochemical properties of pathogens of food toxicoinfections using a long and short variegated series.

9. Sources of contamination of meat with microflora. The causes of food toxicoinfections.

10. Veterinary examination and evaluation of carcasses and organs in the detection of bacteria of the genus Salmonella and opportunistic microflora.

11. Characteristics of bacteria of the genus Salmonella. The main serotypes of salmonella are pathogens of foodborne toxicoinfections.

12. Methods of typing bacteria of the genus Salmonella.

13. The defects of canned food.

14. Post-slaughter veterinary and sanitary examination of cattle slaughter products in the primary animal processing workshop.

15. Veterinary and sanitary assessment of meat in trichinosis.

16. Veterinary and sanitary assessment and modes of disinfection of meat in cysticercosis.

17. Types of meat spoilage.

18. Characteristics and technology of production of edible ghee animal fats.

19. Methods for determining the type of meat.

20. Biochemical properties of pathogens of food toxicoinfections.

21. Antigenic structure of salmonella.

3.2.2. Exam questions

The competence achieved:

GPC-6

Student is able to analyze, identify and assess the danger of the risk of the occurrence and spread of diseases

GPC-6 ID-1

Student knows the existing programs for the prevention and control of zoonoses, contagious diseases, emergent or newly emerging infections, the use of animal identification systems, tracing and control by the relevant veterinary services.

1. Requirements of regulatory and technical documentation for honey.

2. Fundamentals of technical regulation in the Russian Federation.

3. Sanitary requirements for the slaughter and cutting plant.

4. Quality control of pasteurization of milk and dairy products.

5. The essence and significance of technical regulations and GOST.

6. Types, structure and significance of standards.

7. Secondary salmonellosis of animals and their role in the occurrence of food toxicoinfections.

GPC-6 ID-2

Student is able to assess the risk of animal diseases, including the import of animals and animal products and other measures of veterinary services, the control of prohibited substances in the body of animals, animal products and feed.

1. In which cases a microbiological examination of meat is carried out, the scheme of the study.

2. Detection of milk from animals with mastitis.

3. Sanitary assessment of fish in infectious and invasive fish diseases.

4. Veterinary branding of meat.

5. Sources of contamination of meat with microflora. The causes of food toxicoinfections.

6. Features of veterinary and sanitary examination of pig carcasses and organs in meat processing plants and workplaces of veterinary and sanitary examination of slaughter products.

7. Post-slaughter veterinary and sanitary examination of cattle slaughter products in the primary animal processing workshop.

8. The resistance of Salmonella bacteria to physico-chemical factors and the practical significance of this property.

9. The bactericidal phase of milk and its significance. Methods of cooling milk.

GPC-6 ID-3

Student has the skills to carry out identification procedures, select and implement measures that can be used to reduce the level of risk

1. Methods for detecting the meat of the sick, fallen and killed in the agonal state animals..

2. Foodborne diseases of microbial origin and their prevention.

3. Sources of milk contamination by microorganisms and the microflora of milk.

4. Veterinary and sanitary examination and evaluation of milk from animals with tuberculosis and responding to tuberculosis test.

5. Veterinary and sanitary examination and evaluation of milk from animals with mastitis.

6. Organoleptic methods for detecting the meat of sick animals.

7. Study of the biochemical properties of pathogens of food toxicoinfections on triple sugar iron.

8. The study of the biochemical properties of pathogens of food toxicoinfections using a long and short variegated series.

9. Veterinary and sanitary examination and assessment of carcasses and organs in infectious diseases (classical and African swine fever, porcine erysipelas, Teschen's disease).

GPC-7

Student is able to understand the principles of modern information technologies and use them to solve professional tasks

GPC-7 ID-1 Student knows modern technical means and information technologies.

1. Cases in wich animals are not allowed to be slaughtered for meat. Explanation of the reasons.

2. Veterinary and sanitary examination of canned meat.

3. The vices of canned food.

4. Veterinary and sanitary examination of sausage products.

5. Requirements for raw milk.

6. Transport diseases of slaughter animals and their prevention.

7. Sanitary assessment of meat and finished products in the identification of pathogens of food toxicoinfections.

GPC-7 ID-2 Student is able to use modern technical means and information technologies, including elements of machine learning and artificial intelligence, to solve analytical and research tasks.

1. The grounds for mandatory bacteriological examination of meat.

2. Organization of post-slaughter veterinary examination of carcasses and organs in the slaughter and cutting shop and its significance.

3. Accounting for primary crops. Characteristics of the growth of pathogens of foodborne toxic infections in simple and elective media.

4. Veterinary examination and evaluation of carcasses and organs in the detection of bacteria of the genus Salmonella and opportunistic microflora.

5. Measures in the slaughter premises in case of suspected anthrax.

6. The procedure for receiving, hygiene of storage and veterinary and sanitary examination of products at refrigeration enterprises.

7. Types of meat spoilage.

8. Veterinary and sanitary examination of meat in case of sunburn and mold formation. Veterinary and sanitary assessment and prevention.

9. Methods of meat freshness testing. Meat categories according to the degree of freshness.

10. Sources of cold for food preservation, the scheme of the refrigeration unit, the device of ice warehouses.

GPC-7 ID-3 Student possess the skills to use modern technical means and information technologies to solve analytical and research problems

1. Purpose and organization of the work of the state laboratory of veterinary and sanitary expertise in food markets.

2. Primary milk processing and its significance.

3. Hygiene of milk production on dairy farms and veterinary and sanitary requirements for them.

4. Classification of foodborne diseases and their characteristics.

5. Classification of meat processing enterprises. The device of stationary and field slaughter stations and veterinary and sanitary requirements for them.

PC-18 Student can conduct veterinary and sanitary examinations, control the production and certification of livestock, beekeeping, aquaculture fisheries, and feed products, as well as carry animals and cargo during export and import activities to ensure food safety. Also can perform a sanitary inspection of livestock facilities and structures.

PC-18 ID-1 Student is able to perform veterinary and sanitary inspections of animals and poultry before slaughter, as well as post-slaughter examinations of carcasses and organs. Student is able also to assess correctly the quality of agricultural products and control its production. Student can assess the quality of controlled products based on organoleptic properties and laboratory results, using digital technologies. They are able to control the operating parameters for all stages of processing livestock raw materials. They should organize and control the loading and transportation of slaughtered animals, raw materials, and products of animal or vegetable origin. They should be able to determine the species of meat, conduct bacteriological analyses of meat and meat products, and use methods for technochemical control of canned animal and vegetable products.

1. The lymphatic system and its importance in the veterinary and sanitary examination of carcasses and organs. Topography of lymph nodes of the head, carcass and internal organs in pigs.

2. Topography of lymph nodes of the head, carcass and internal organs of cattle.

3. Trichinosis. Characteristics of the pathogen. The biological cycle of trichinella development.

4. Cysticercosis. Characteristics of the pathogen. The biological cycle of development of bovine and pig chains.

5. Veterinary and sanitary assessment of fresh, doubtful freshness, stale meat.

6. Serological typification of salmonella.

7. The use of milk from animals that are sick and react to brucellosis.

8. Veterinary and sanitary examination and veterinary assessment of fish with invasive diseases dangerous to humans.

9. Veterinary and sanitary examination and veterinary assessment of fish with invasive and infectious diseases that are not dangerous to humans.

10. Sanitary assessment of edible chicken eggs.

11. Characteristics of edible turkey, guinea fowl, quail and ostrich eggs by shelf life.

12. Disinfection methods and the use of conditionally suitable meat.

13. Transportation of slaughtered animals by driving and motor transport. Disinfection of vehicles used in the transportation of slaughtered animals.

14. Veterinary requirements for slaughtered animals.

15. Transportation of slaughtered animals by rail and the tasks of the veterinary service. Processing of wagons after unloading of animals and raw materials of animal origin.

16. Veterinary examination and evaluation of carcasses and organs in tetanus and pasteurellosis.

17. Veterinary and sanitary examination and assessment of carcasses and organs in brucellosis.

18. Veterinary examination, evaluation of carcasses and organs in tuberculosis.

19. Veterinary and sanitary examination and assessment of carcasses and organs in case of foot-and-mouth disease and smallpox.

20. Veterinary and sanitary examination and assessment of carcasses and organs in infectious diseases of horses (glanders, strangles, lymphangitis episootica).

21. Veterinary and sanitary examination and evaluation of carcasses and organs obtained from animals with non-communicable diseases.

22. Veterinary and sanitary examination and veterinary assessment of meat and slaughter products in botulism and its prevention.

23. Veterinary examination and evaluation of milk in leptospirosis, necrobacteriosis and rabies.

24. Veterinary and sanitary examination and evaluation of carcasses and organs obtained from animals with invasive diseases that are not dangerous to humans.

25. Veterinary and sanitary examination, assessment of carcasses and organs in hemosporidiosis, fascioliasis, echinococcosis.

26. Veterinary and sanitary examination and evaluation of slaughter products and milk from animals sick and vaccinated against anthrax.

27. Veterinary and sanitary examination and evaluation of slaughter products and milk from animals sick and responding to leukemia.

28. Veterinary and sanitary examination and evaluation of poultry meat, eggs, down and feathers in viral diseases of birds (infectious laryngotracheitis, infectious bronchitis, smallpox, leukemia, Marek's disease, influenza, Newcastle disease).

29. Veterinary and sanitary examination and evaluation of poultry meat, eggs, down and feathers in bacterial diseases of poultry (pasteurellosis, pullorosis – typhus, tuberculosis, salmonellosis, colibacteriosis, staphylococcosis).

30. Veterinary assessment of animal carcasses that died from accidental causes (electric shock, lightning, heat stroke, drowning, etc.).

31. Veterinary and sanitary examination and assessment of carcasses and organs in parathuberculosis and actinomycosis.

32. Veterinary and sanitary examination and assessment of carcasses and organs in leptospirosis and listeriosis.

33. Veterinary and sanitary examination of animal meat in case of poisoning with salts of heavy metals and radioactive isotopes.

34. Veterinary and sanitary examination of meat and milk in case of poisoning of animals with pesticides, their assessment.

35. Classification of fish and marine aquatic organisms.

36. Classification, labeling, transportation, storage of edible chicken eggs.

37. Sanitary control of plant products in food markets.

38. Methods of preserving meat and their hygienic characteristics.

39. Categories of meat by thermal condition and its hygienic characteristics. Methods of identification of the thermal state of meat.

40. Organoleptic defects of milk.

41. Determination of the total microbial contamination of milk.

42. Determination of the coli titer of milk

43. Quality control of milk pasteurization.

44. Detection of milk fraud.

PC-18 ID-2

Student knows the standards in the field of veterinary and sanitary assessment, control, and productionofsafe animalroducts, including beekeeping, aquaculture, and feed; as well as plant-based products; the rules for veterinary and sanitary inspection and quality control of animal-derived food; preventive measures for zoonoses prevention; modern methods and means of disinfection, insecticide use, and rodent control in slaughterhouses and meat-processing facilities; norms and regulations for the transportation of animals, raw materials, animal-derived products, bee products, and aquaculture products; knowledge of the biology and life cycle of animals that can cause zoonotic diseases, as well as the factors that contribute to their spread; and an understanding of the basic concepts and terminology used in the assessment of the quality of meat products, their chemical composition and nutritional value, and factors that influence quality.

1. The method of post-slaughter examination of the head, internal organs, carcasses of cattle.

2. The method of post-slaughter examination of the head, internal organs, carcasses of pigs.

3. Methods of post-slaughter veterinary and sanitary examination of carcasses and organs of birds.

4. Organization and features of veterinary and sanitary examination of wild animal meat.

5. Features of pre- and post-slaughter examination of pigs, ungulates, rabbits, calves.

6. Features of veterinary and sanitary examination of calves, the difference between the meat of calves older than 2 weeks of age from immature and stillborn.

7. Features of veterinary and sanitary examination of meat and slaughter products of ungulates.

8. Trichinelloscopy of meat.

9. Biochemical method of meat examination for trichinosis.

10. Veterinary and sanitary examination of cattle and pig meat in cysticercosis.

11. Physico-chemical and microscopic methods for detecting the meat of sick animals.

12. Organoleptic methods of meat freshness testing.

13. Physico-chemical and microscopic methods of meat freshness testing.

14. Examination of rabbit and poultry meat for freshness.

15. Determination of varietal indicators of edible ghee animal fats.

16. Determination of the goodness of edible ghee animal fats.
17. Determination of the species of edible ghee animal fats.
18. Subjective methods of determining the species of meat.
19. Objective methods for determining the species of meat.
20. The scheme of primary sowing. The media used, the sowing technique.
21. Characteristics of bacteria of the genus Salmonella. The main serotypes of salmonella are pathogens of foodborne toxicoinfections.
22. Methods of typing bacteria of the genus Salmonella.
23. Organoleptic methods of dairy products research.
24. Physico-chemical methods of dairy products research.
25. Detection of falsifications of dairy products.
26. Methods for detecting adulteration of milk and dairy products.
27. Determination of E. coli microbes in milk (coli-titer) and the value of this indicator.
28. Methods of veterinary and sanitary examination of milk.
29. Veterinary and sanitary examination of fermented dairy products in food markets.
30. Methods for determining the number of mesophilic aerobic and facultative anaerobic microorganisms in milk and their characteristics.
31. Milk defects and their causes.
32. Examination of fish for freshness.
33. Methods of parasitological examination of fish.
34. Methods of veterinary and sanitary examination of food chicken eggs.
35. Veterinary and sanitary examination and veterinary evaluation of food eggs.
36. Organoleptic studies of honey.
37. Laboratory studies of honey: methods for determining the mass fraction of moisture, diastase number and acidity of honey. The values of these indicators.
38. Methods for determining the adulteration of honey with sugar syrup.
39. Microscopic studies of honey.
40. Falsification of honey and methods of detecting it.
41. Sanitary control of vegetables, fruits, greens, berries in food markets.
42. Sanitary control of mushrooms in food markets.
43. Sanitary control of flour, cereals, starch in food markets.
44. Veterinary and sanitary requirements for the transportation of perishable products.
45. Organization of work and structure of the laboratory of veterinary and sanitary expertise in food markets.
46. Organization of post-slaughter veterinary and sanitary examination of slaughter products.
47. Maturation of meat. The essence and meaning.
48. Tasks of the veterinary service at meat processing enterprises.
49. Veterinary and sanitary assessment of meat in trichinosis.
50. Veterinary and sanitary assessment and modes of disinfection of meat in cysticercosis.
51. Veterinary and sanitary examination and evaluation of meat in case of sludging and rotting.
52. Characteristics and technology of production of edible melted animal fats.
53. Methods for determining the species of meat.
54. Biochemical properties of pathogens of food toxicoinfections.
55. Antigenic structure of salmonella.

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

4.1. Criteria for evaluating students' knowledge during the knowledge survey (written survey)

Mark "**excellent**" - the student clearly expresses his point of view on the issues under consideration, giving appropriate examples.

Mark "**good**" - the student admits some errors in the answer

The mark «**satisfactory**" - the student discovers gaps in knowledge of the basic educational and normative material.

The mark "**unsatisfactory**" - the student discovers significant gaps in knowledge of the basic provisions of the discipline, the inability to obtain the correct solution to a specific practical problem with the help of a teacher.

4.2. Criteria for evaluating students' knowledge during testing

The test result is evaluated on a percentage rating scale. Each student is offered a set of test tasks of 25 questions:

The mark "**excellent**" is 25-22 correct answers.

The mark "**good**" is 21-18 correct answers.

The mark "**satisfactory**" is 17-13 correct answers.

The mark "**unsatisfactory**" is less than 13 correct answers

4.3. Criteria for evaluating students' knowledge in the preparation of reports

The mark "**excellent**" - the problem is identified and its relevance is justified; an analysis of various points of view on the problem under consideration is made and one's own position is logically stated; conclusions are formulated, the topic is fully disclosed, the volume is maintained; the requirements for external design are met, the basic requirements for the report are fulfilled.

The mark "**good**" - mistakes have been made. In particular, there are inaccuracies in the presentation of the material; there is no logical consistency in judgments; the volume of the report is not maintained; there are omissions in the design, there are significant deviations from the requirements for the presentation of materials.

The mark "**satisfactory**" - the topic is only partially covered; factual errors were made in the content of the report; there are no conclusions, the topic of the report is not disclosed.

The mark "**unsatisfactory**" - there is a significant misunderstanding of the problem or the report is not submitted.

1.4. Criteria for evaluating students' knowledge when checking control papers

1.5.

The mark "**excellent**" - the problem is identified and its relevance is justified; an analysis of various points of view on the problem under consideration is made and one's own position is logically stated; conclusions are formulated, the topic is fully disclosed, the volume is maintained; the requirements for external design are met, the basic requirements for the abstract are fulfilled

The mark is "**good**" - mistakes have been made. In particular, there are inaccuracies in the presentation of the material; there is no logical consistency in judgments; the volume of the

abstract is not maintained; there are omissions in the design, there are significant deviations from the requirements for abstracting.

The mark "**satisfactory**" - the topic is only partially covered; factual errors were made in the content of the abstract; there are no conclusions, the topic of the abstract is not disclosed

The mark "**unsatisfactory**" - there is a significant misunderstanding of the problem or the abstract is not presented at all.

4.5. Criteria of knowledge during the test

The mark "**accepted** " must correspond to the parameters of any of the positive ratings ("excellent", "good", "satisfactory").

The mark "**not accepted** " rating should correspond to the parameters of the "unsatisfactory" rating.

The mark "excellent" – all types of educational work provided for in the curriculum have been completed. The student demonstrates the compliance of knowledge, skills, and abilities with the indicators given in the tables, operates with acquired knowledge, skills, and applies them in situations of increased complexity. At the same time, inaccuracies, difficulties in analytical operations, transfer of knowledge and skills to new, non-standard situations may be allowed.

The mark "good" – all types of educational work provided for in the curriculum have been completed. The student demonstrates the compliance of knowledge, skills, and abilities with the indicators given in the tables, operates with acquired knowledge, skills, and applies them in standard situations. At the same time, minor errors, inaccuracies, difficulties in analytical operations, transfer of knowledge and skills to new, non-standard situations may be made.

Mark "satisfactory" – one or more types of educational work provided for in the curriculum have not been completed. The student demonstrates incomplete compliance of knowledge, skills, and abilities with the indicators given in the tables, significant errors are made, a partial lack of knowledge, skills, and skills is manifested in a number of indicators, the student experiences significant difficulties in operating with knowledge and skills when transferring them to new situations. –

The mark «unsatisfactory" – the types of educational work provided for in the curriculum have not been completed. demonstrates incomplete compliance of knowledge, skills, and abilities given in the tables of indicators, significant errors are made, a lack of knowledge, skills, and skills is manifested for a large number of indicators, the student experiences significant difficulties in operating knowledge and skills when transferring them to new situations

4.6. Criteria of knowledge during the examination

The mark "excellent" – all types of educational work provided for in the curriculum have been completed. The student demonstrates the compliance of knowledge, skills, and abilities with the indicators given in the tables, operates with acquired knowledge, skills, and applies them in various situations of increased complexity. At the same time, inaccuracies, difficulties in analytical operations, transfer of knowledge and skills to new, non-standard situations may be allowed. –

The mark "good" – all types of educational work provided for in the curriculum have been completed. The student demonstrates the compliance of knowledge, skills, and abilities with the indicators given in the tables, operates with acquired knowledge, skills, and applies them in standard situations. At the same time, minor errors, inaccuracies, difficulties in analytical operations, transfer of knowledge and skills to new, non-standard situations can be made.

Mark "satisfactory" – one or more types of educational work provided for in the curriculum have not been completed. The student demonstrates incomplete compliance of knowledge, skills, and abilities with the indicators given in the tables, significant errors are made, a partial lack of knowledge, skills, and skills are manifested in a number of indicators, the student experiences significant difficulties in operating with knowledge and skills when transferring them to new situations.

The mark "unsatisfactory" – the types of educational work provided for in the curriculum have not been completed. demonstrate incomplete compliance of knowledge, skills, and abilities given in the tables of indicators, significant errors are made, a lack of knowledge, skills, and skills are manifested for a large number of indicators, the student experiences significant difficulties in operating with knowledge and skills when transferring them to new situations.

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.