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.
June 27, 2025

Department of Internal Diseases of Animals Named after A. V. Sinev

EDUCATIONAL WORK PROGRAM

for the discipline

"INTERNAL NON-COMMUNICABLE DISEASES"

The level of higher education
SPECIALIST COURSE

Specialty 36.05.01 Veterinary Medicine
Profile: «General clinical veterinary medicine»
Full-time education
Education starts in 2025

Reviewed and adopted
at the meeting of the department
on June 24, 2025.
Protocol No. 10

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

Saint Petersburg
2025

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

The main goal in the training of a veterinarian in the discipline B1.0.30 "Internal non-communicable diseases" is to provide students with theoretical and practical knowledge on general prevention and therapy, therapeutic techniques, etiology, pathogenesis, clinical manifestation, diagnosis, treatment and prevention of specific nosological forms of non-communicable diseases.

The main promising tasks of the discipline "Internal non-communicable diseases" are:

a) study of the dynamics and features of the course of internal non-communicable diseases in conditions of intensive animal husbandry with industrial technology;

b) further improvement and development of diagnostic methods, study of endemic diseases;

c) the search for effective dietary and therapeutic agents, premixes and optimal vitamin and mineral composition of compound feeds and feed mixtures for the prevention of metabolic pathology;

d) development of effective methods of group therapy and prevention of diseases of the respiratory and digestive systems;

e) the search for effective anti-stress drugs, biostimulants and other means to increase the nonspecific resistance of the body;

f) development of reliable methods of group and individual therapy and prevention of non-communicable diseases of young animals.

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

As a result of mastering the discipline, the student prepares for the following types of activities, in accordance with the educational standard of the FSE on 05.36.01 "Veterinary Medicine" Profile: «General clinical veterinary medicine».

The field of professional activity:

13 Agriculture

01 Education and Science

Types of tasks of professional activity:

- Medical.

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

The study of the discipline should form the following competencies:

a) general professional skills (GPC):

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

- Is able to interpret and evaluate in professional activity the influence of natural, socio-economic, genetic and economic factors on the physiological status of the animal body **(GPC-2)**.

b) professional competencies (PC):

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

- To carry out plan of animal treatment, based on the stated diagnosis and animals' individual character ristics, signature of necessary remedies of chemical and biological nature for the treatment, taking into account combination of its pharmacological effect on the animal body (**PC-5);**

- The selection of the variety of methods of non-drug therapy, including physiotherapy methods for the treatment of animals, carry out therapeutic, including physiotherapy procedures using special equipment in compliance with safety rules **(PC-6);**

- Application of follow-up examinations and studies of animals to assess the effectiveness and safety of the prescribed treatment, detalisation of the animal treatment plan (if necessary) based on the results of the evaluation of the treatment effectiveness **(PC-10);**

- Management of organizational, technical, zootechnical and veterinary measures for the prevention of non-contagiouse diseases in accordance with the preventive plan, analysis of the effectiveness of measures for the prevention of animal diseases for its improvement **(PC-15);**

- Drawing up a plan for the medical examination of animals, taking into account its husbandry type, veterinary examinations in order to preserve the health of animals and increase its productivity, development of recommendations for preventive and treatment measures, based on the results of animal study, conducted as part of the veterinary examination **(PC-17).**

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

Index	Content
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
GPC-2	Is able to interpret and evaluate in professional activity the influence of natural, socio-economic, genetic and economic factors on the physiological status of the animal body
GPC-2 ID -1	To know: ecology factors of the environment, its classification and the nature of relationships with living organisms; basic ecological concepts; interspecific relations of animals and plants, terms and bio ecology laws, parasites and hosts; ecological features of some types of pathogenic microorganisms; mechanisms of influence of anthropogenic and economic factors on the animal body
GPC-2 ID -2	To be able to: use environmental factors and environmental laws in agricultural manufacture; apply the achievements of modern microbiology and ecology of microorganisms in animal husbandry and veterinary medicine in order to prevent infectious and invasive diseases and treat animals; use environmental monitoring methods in the environmental assessment of agricultural facilities and the production of agricultural products; assess the impact on the animal body, anthropogenic and economic factors
PC-3	To set the diagnose based on the analysis of anamnesis, general, special (instrumental) and laboratory research methods
PC-3 ID -1	To possess skills to make a diagnosis in accordance with generally accepted criteria and classifications, lists of animal diseases
PC-3 ID -2	To possess skills to use specialized information databases for the diagnosis of animal diseases
PC-3 ID -3	To possess skills to document the results of clinical animal studies, using digital technologies
PC-3 ID -4	To know the methods of interpretation and data analysis of special (instrumental) methods of animal examination
PC-3 ID -5	To know the norms of indicators of the status of animals' biological material of different species and the reasons that cause deviations from the norms
PC-3 ID -6	To know the etiology and pathogenesis of animal diseases of various species
PC-3 ID -7	To know the generally accepted criteria and classifications of animal diseases, approved lists of animals disease
PC-5	To carry out plan of animal treatment, based on the stated diagnosis and animals individual character ristics, signature of necessary remedies of chemical and biological nature for the treatment, taking into account combination of its pharmacological effect on the animal body
PC-5 ID -1	To be able to use specialized information databases at a choice of animal treatment methods
PC-5 ID -2	To be able to calculate the amount of remedies for the treatment of animals and the prevention of diseases with the receipts signature for a certain period
PC-5 ID -3	To be able to calculate the amount of remedies for the treatment of animals and for the prevention of diseases with the receipts signature for a certain period, using digital technologies as well
PC-5 ID -4	To be able to administer drugs to the animals body in various techniques
PC-5 ID -5	To know the methods of pharmacological treatment of sick animals and indications for its administration, in accordance with the guidelines, instructions, manuals, rules of diagnosis, prevention and treatment

PC-5 ID -8	To know the ways of drug injections, used both for animals enteral (oral, sublingual and rectal administration) and parenteral (injections, inhalations and skin applications) methods
PC-6	The selection of the variety of methods of non-drug therapy, including physiotherapy methods for the treatment of animals, carry out therapeutic, including physiotherapy procedures using special equipment in compliance with safety rules
PC-6 ID -1	To be able to use special, both digital therapeutic equipment and physiotherapy procedures, in accordance with its instructions
PC-6 ID -2	To be able to fix animals to ensure safety during medical procedures
PC-6 ID -3	To be able to maintain patients documentation on diseases and treatment of animals, using digital technologies
PC-6 ID -4	To know the types of non-drug therapy, including physiotherapy, used in veterinary medicine, and the clinical signs for its use
PC-6 ID -6	To know the safety rules of manipulation with special equipment during non-drug instrumentation for the animals
PC-6 ID-7	To know the methods and techniques of non-drug manipulations for the animal
PC-6 ID -8	To know forms and rules for filling out the journal for the registration of sick animals and the animal's medical history in accordance with the requirements of veterinary legislation, in digital format as well
PC-10	Application of follow-up examinations and studies of animals to assess the effectiveness and safety of the prescribed treatment, detalisation of the animal treatment plan (if necessary) based on the results of the evaluation of the treatment effectiveness
PC-10 ID -1	To be able to evaluate the effectiveness of treatment
PC-10 ID -2	To be able to use specialized information databases when choosing ways for treat animal diseases
PC-10 ID -3	To know the methods of drug treatment of sick animals and indications for its use in accordance with the guidelines, instructions, manuals, rules of diagnosis, prevention and treatment of animals
PC-15	Management of organizational, technical, zootechnical and veterinary measures for the prevention of non-contagiouse diseases in accordance with the preventive plan, analysis of the effectiveness of measures for the prevention of animal diseases for its improvement
PC-15 ID -1	To be able to assess the impact of animal welfare and feeding conditions on its health as part of the implementation of action plans for the prevention of animal diseases using digital technologies
PC-15 ID -2	To be able to evaluate the effectiveness of preventive measures and ways to implement them, using digital technologies as well
PC-15 ID -4	To be able to perform diagnostic examination of animals within the framework of medical examination for early detection of disease preclinical and clinical signs
PC-15 ID -5	To know the types of measures for the prevention of non-contagious animal diseases and metabolic disorders in animals and the requirements for its implementation, in accordance with methodological guidelines, instructions, manuals, rules for the diagnosis, prevention and treatment of animals
PC-17	Drawing up a plan for the medical examination of animals, taking into account its husbandry type, veteri nary examinations in order to preserve the health of animals and increase its productivity, development of recommendations for preventive and treatment measures, based on the results of animal study, conducted as part of the veterinary examination
PC-17 ID -1	To be able to perform diagnostic examination of animals within the framework of veterinary study with the use of digital equipment, for early detection of preclinical and clinical signs of the disease
PC-17 ID -2	To know the methodology of veterinary examination of animals in accordance with the actual methodological guidelines
PC-17 ID -3	To know the types of preventive measures of non-contagious animal diseases and metabolic disorders and the requirements for its implementation in accordance with methodological guidelines, instructions, manuals, rules for the diagnosis, prevention and treatment of animals

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

Discipline B1.O.30 "Internal non-communicable diseases" is a mandatory part of the disciplines of the federal state educational standard of higher education in the specialty 36.05.01 "Veterinary Medicine" (specialty level).

He learns in the 4th year in 7-8 semesters, in the 5th year in the 9th semester of full-time education.

When teaching the discipline B1.0.30 "Internal non-infectious diseases", the knowledge and skills acquired by students during the development of the disciplines of anatomy, histology and embryology, biochemistry, physiology, feeding, pathological physiology, pathological anatomy and forensic veterinary examination, clinical diagnostics, pharmacology and toxicology, parasitology and epizootology are used.

4. THE SCOPE OF DISCIPLINE AND TYPES OF ACADEMIC WORK

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

Type of educational work	Hours	Semesters		
		7	8	9
Classroom classes (total)	**132**	**36**	**22**	**42**
Including:	**-**	**-**	**-**	**-**
Lectures, including interactive forms	**66**	**16**	**16**	**34**
Practical lessons (PL), including interactive forms, among which are:	**66**	**16**	**16**	**34**
practical training (PT)	18	4	6	8
Self-study	**165**	**40**	**76**	**49**
Control	**27**	**0**	**0**	**27**
Type of intermediate and final certification (test, exam)	Test, exam	Test	Test	Exam
Total labor intensity hours/credits	**324/9**	**72/2**	**108/3**	**144/4**

5. THE CONTENT OF THE DISCIPLINE AND TYPES OF CLASSES

№	Name Practical and lecture classes (7th semester)	Emerging competencies	Term	Types of academic work, including students' independent work and labor intensity (in hours)				
				CONTROL	LECTURES	PRACTICAL LESSONS	PRACTICAL TRAINING	SELF-WORK
1	Introductory lesson. Safety and personal hygiene when working with sick animals. Rules of clinical research and treatment of animals, methods of fixation and taming of animals. The basic principles, tools and methods of veterinary therapy. Medical examination of animals for internal non-infectious diseases	**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 **GPC-2** Is able to interpret and evaluate in professional activity the influence of natural, socio-economic, genetic and economic factors on the physiological status of the animal body GPC-2 ID -1 To know: ecology factors of the environment, its classification and the nature of relationships with living organisms; basic ecological concepts; interspecific relations of animals and plants, terms and bio ecology laws, parasites and hosts; ecological features of some types of pathogenic microorganisms; mechanisms of influence of anthropogenic and economic factors on the animal body GPC-2 ID -2 To be able to: use environmental factors and environmental laws in agricultural manufacture; apply the achievements of modern microbiology and ecology of microorganisms in animal husbandry and veterinary medicine in order to prevent infectious and invasive diseases and treat animals; use environmental monitoring methods in the environmental assessment of agricultural facilities and the production of agricultural products; assess the impact on the animal body, anthropogenic and economic factors **PC-3** To set the diagnose based on the analysis of anamnesis, general, special (instrumental) and laboratory research methods PC-3 ID -1 To possess skills to make a diagnosis in accordance with generally accepted criteria and classifications, lists of animal diseases PC-3 ID -2 To possess skills to use specialized information databases for the diagnosis of animal diseases PC-3 ID -3 To possess skills to document the results of clinical animal studies, using digital technologies PC-3 ID -4 /To know the methods of interpretation and data analysis of special (instrumental) methods of animal examination PC-3 ID -5 To know the norms of indicators of the status of animals' biological material of different species and the reasons that cause deviations from the norms PC-3 ID -6 To know the etiology and pathogenesis of animal diseases of various species PC-3 ID -7 To know the generally accepted criteria and classifications of animal diseases, approved lists of animals disease	7		2	2		4

		PC-5 To carry out plan of animal treatment, based on the stated diagnosis and animals individual characteristics, signature of necessary remedies of chemical and biological nature for the treatment, taking into account combination of its pharmacological effect on the animal body PC-5 ID -1 To be able to use specialized information databases at a choice of animal treatment methods PC-5 ID -2 To be able to calculate the amount of remedies for the treatment of animals and the prevention of diseases with the receipts signature for a certain period PC-5 ID -3 To be able to calculate the amount of remedies for the treatment of animals and for the prevention of diseases with the receipts signature for a certain period, using digital technologies as well PC-5 ID -4 To be able to administer drugs to the animals body in various techniques PC-5 ID -5 To know the methods of pharmacological treatment of sick animals and indications for its administration, in accordance with the guidelines, instructions, manuals, rules of diagnosis, prevention and treatment PC-5 ID -8 To know the ways of drug injections, used both for animals enteral (oral, sublingual and rectal administration) and parenteral (injections, inhalations and skin applications) methods **PC-17** Drawing up a plan for the medical examination of animals, taking into account its husbandry type, veterinary examinations in order to preserve the health of animals and increase its productivity, development of recommendations for preventive and treatment measures, based on the results of animal study, conducted as part of the veterinary examination PC-17 ID -1 To be able to perform diagnostic examination of animals within the framework of veterinary study with the use of digital equipment, for early detection of preclinical and clinical signs of the disease PC-17 ID -2 To know the methodology of veterinary examination of animals in accordance with the actual methodological guidelines PC-17 ID -3 To know the types of preventive measures of non-contagious animal diseases and metabolic disorders and the requirements for its implementation in accordance with methodological guidelines, instructions, manuals, rules for the diagnosis, prevention and treatment of animals						
2	Therapeutic technique. The methods of administration of drugs are individual and group. Hemotherapy, bloodletting. Methods of inhalation, aerosol therapy, hyperbaric oxygenation. Puncture of the scar	**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-3** To set the diagnose based on the analysis of anamnesis, general, special (instrumental) and laboratory research methods PC-3 ID -1 To possess skills to make a diagnosis in accordance with generally accepted criteria and classifications, lists of animal diseases PC-3 ID -2 To possess skills to use specialized information databases	7		2	1	1	4

	and the introduction of medicinal liquids into the book. Probing and flushing of the stomach and pancreas. Therapeutic technique. Metalloindication and the introduction of magnetic probes, as well as magnetic modifiers into the mesh of cattle.	for the diagnosis of animal diseases PC-3 ID -3 To possess skills to document the results of clinical animal studies, using digital technologies PC-3 ID -4 /To know the methods of interpretation and data analysis of special (instrumental) methods of animal examination PC-3 ID -5 To know the norms of indicators of the status of animals' biological material of different species and the reasons that cause deviations from the norms PC-3 ID -6 To know the etiology and pathogenesis of animal diseases of various species PC-3 ID -7 To know the generally accepted criteria and classifications of animal diseases, approved lists of animals disease **PC-5** To carry out plan of animal treatment, based on the stated diagnosis and animals individual characteristics, signature of necessary remedies of chemical and biological nature for the treatment, taking into account combination of its pharmacological effect on the animal body PC-5 ID -1 To be able to use specialized information databases at a choice of animal treatment methods PC-5 ID -2 To be able to calculate the amount of remedies for the treatment of animals and the prevention of diseases with the receipts signature for a certain period PC-5 ID -3 To be able to calculate the amount of remedies for the treatment of animals and for the prevention of diseases with the receipts signature for a certain period, using digital technologies as well PC-5 ID -4 To be able to administer drugs to the animals body in various techniques PC-5 ID -5 To know the methods of pharmacological treatment of sick animals and indications for its administration, in accordance with the guidelines, instructions, manuals, rules of diagnosis, prevention and treatment PC-5 ID -8 To know the ways of drug injections, used both for animals enteral (oral, sublingual and rectal administration) and parenteral (injections, inhalations and skin applications) methods **PC-6** The selection of the variety of methods of non-drug therapy, including physiotherapy methods for the treatment of animals, carry out therapeutic, including physiotherapy procedures using special equipment in compliance with safety rules PC-6 ID-1 To be able to use special, both digital therapeutic equipment and physiotherapy procedures, in accordance with its instructions PC-6 ID-2 To be able to fix animals to ensure safety during medical procedures PC-6 ID-3 To be able to maintain patients documentation on diseases and treatment of animals, using digital technologies PC-6 ID-4 To know the types of non-drug therapy, including physiotherapy, used in veterinary medicine, and the clinical signs for its use PC-6 ID-6 To know the safety rules of manipulation with special equipment during non-drug instrumentation for the animals PC-6 ID-7 To know the methods and techniques of non-drug manipulations for the animal PC-6 ID-8 To know forms and rules for filling out the journal for the registration of sick animals and the animal's medical history in accordance with the requirements of veterinary legislation, in digital format as well						

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3	Classification of diseases of the digestive system. Diagnosis, therapy and prevention of diseases of the oral cavity, pharynx and esophagus	**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 **GPC-2** Is able to interpret and evaluate in professional activity the influence of natural, socio-economic, genetic and economic factors on the physiological status of the animal body GPC-2 ID -1 To know: ecology factors of the environment, its classification and the nature of relationships with living organisms; basic ecological concepts; interspecific relations of animals and plants, terms and bio ecology laws, parasites and hosts; ecological features of some types of pathogenic microorganisms; mechanisms of influence of anthropogenic and economic factors on the animal body GPC-2 ID -2 To be able to: use environmental factors and environmental laws in agricultural manufacture; apply the achievements of modern microbiology and ecology of microorganisms in animal husbandry and veterinary medicine in order to prevent infectious and invasive diseases and treat animals; use environmental monitoring methods in the environmental assessment of agricultural facilities and the production of agricultural products; assess the impact on the animal body, anthropogenic and economic factors **PC-3** To set the diagnose based on the analysis of anamnesis, general, special (instrumental) and laboratory research methods PC-3 ID -1 To possess skills to make a diagnosis in accordance with generally accepted criteria and classifications, lists of animal diseases PC-3 ID -2 To possess skills to use specialized information databases for the diagnosis of animal diseases PC-3 ID -3 To possess skills to document the results of clinical animal studies, using digital technologies	7		2	2		4

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4	Diagnosis, therapy and prevention of hypotension and atony of the pancreas, acidosis and alcolosis of the scar. Diagnosis, therapy and prevention of scar tympanum, overflow and parakeratosis of the scar	**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 **GPC-2** Is able to interpret and evaluate in professional activity the influence of natural, socio-economic, genetic and economic factors on the physiological status of the animal body GPC-2 ID -1 To know: ecology factors of the environment, its classification and the nature of relationships with living organisms; basic ecological concepts; interspecific relations of animals and plants, terms and bio ecology laws, parasites and hosts; ecological features of some types of pathogenic microorganisms; mechanisms of influence of anthropogenic and economic factors on the animal body GPC-2 ID -2 To be able to: use environmental factors and environmental laws in agricultural manufacture; apply the achievements of modern microbiology and ecology of microorganisms in animal husbandry and veterinary medicine in order to prevent infectious and invasive diseases and treat animals; use environmental monitoring methods in the environmental assessment of agricultural facilities and the production of agricultural products; assess the impact on the animal body, anthropogenic and economic factors **PC-3** To set the diagnose based on the analysis of anamnesis, general, special (instrumental) and laboratory research methods PC-3 ID -1 To possess skills to make a diagnosis in accordance with generally accepted criteria and classifications, lists of animal diseases PC-3 ID -2 To possess skills to use specialized information databases for the diagnosis of animal diseases PC-3 ID -3 To possess skills to document the results of clinical animal studies, using digital technologies PC-3 ID -4 /To know the methods of interpretation and data analysis of special (instrumental) methods of animal examination PC-3 ID -5 To know the norms of indicators of the status of animals'	7		2	1	1	6

		biological material of different species and the reasons that cause deviations from the norms PC-3 ID -6 To know the etiology and pathogenesis of animal diseases of various species PC-3 ID -7 To know the generally accepted criteria and classifications of animal diseases, approved lists of animals disease **PC-5** To carry out plan of animal treatment, based on the stated diagnosis and animals individual characteristics, signature of necessary remedies of chemical and biological nature for the treatment, taking into account combination of its pharmacological effect on the animal body PC-5 ID -1 To be able to use specialized information databases at a choice of animal treatment methods PC-5 ID -2 To be able to calculate the amount of remedies for the treatment of animals and the prevention of diseases with the receipts signature for a certain period PC-5 ID -3 To be able to calculate the amount of remedies for the treatment of animals and for the prevention of diseases with the receipts signature for a certain period, using digital technologies as well PC-5 ID -4 To be able to administer drugs to the animals body in various techniques PC-5 ID -5 To know the methods of pharmacological treatment of sick animals and indications for its administration, in accordance with the guidelines, instructions, manuals, rules of diagnosis, prevention and treatment PC-5 ID -8 To know the ways of drug injections, used both for animals enteral (oral, sublingual and rectal administration) and parenteral (injections, inhalations and skin applications) methods **PC-6** The selection of the variety of methods of non-drug therapy, including physiotherapy methods for the treatment of animals, carry out therapeutic, including physiotherapy procedures using special equipment in compliance with safety rules PC-6 ID-1 To be able to use special, both digital therapeutic equipment and physiotherapy procedures, in accordance with its instructions PC-6 ID-2 To be able to fix animals to ensure safety during medical procedures PC-6 ID-3 To be able to maintain patients documentation on diseases and treatment of animals, using digital technologies PC-6 ID-4 To know the types of non-drug therapy, including physiotherapy, used in veterinary medicine, and the clinical signs for its use PC-6 ID-6 To know the safety rules of manipulation with special equipment during non-drug instrumentation for the animals PC-6 ID-7 To know the methods and techniques of non-drug manipulations for the animal PC-6 ID-8 To know forms and rules for filling out the journal for the registration of sick animals and the animal's medical history in accordance with the requirements of veterinary legislation, in digital format as well **PC-15** Management of organizational, technical, zootechnical and veterinary measures for the prevention of non-contagiouse diseases in accordance with the preventive plan, analysis of the effectiveness of measures for the prevention of animal diseases for its improvement PC-15 ID-1 To be able to assess the impact of animal welfare and feeding conditions on its health as part of the implementation of action plans for the						

		prevention of animal diseases using digital technologies PC-15 ID-2 To be able to evaluate the effectiveness of preventive measures and ways to implement them, using digital technologies as well PC-15 ID-4 To be able to perform diagnostic examination of animals within the framework of medical examination for early detection of disease preclinical and clinical signs PC-15 ID-5 To know the types of measures for the prevention of non-contagious animal diseases and metabolic disorders in animals and the requirements for its implementation, in accordance with methodological guidelines, instructions, manuals, rules for the diagnosis, prevention and treatment of animals **PC-10** Application of follow-up examinations and studies of animals to assess the effectiveness and safety of the prescribed treatment, detalisation of the animal treatment plan (if necessary) based on the results of the evaluation of the treatment effectiveness PC-10 ID -1 To be able to evaluate the effectiveness of treatment PC-10 ID -2 To be able to use specialized information databases when choosing ways for treat animal diseases PC-10 ID -3 To know the methods of drug treatment of sick animals and indications for its use in accordance with the guidelines, instructions, manuals, rules of diagnosis, prevention and treatment of animals **PC-15** Management of organizational, technical, zootechnical and veterinary measures for the prevention of non-contagiouse diseases in accordance with the preventive plan, analysis of the effectiveness of measures for the prevention of animal diseases for its improvement PC-15 ID-1 To be able to assess the impact of animal welfare and feeding conditions on its health as part of the implementation of action plans for the prevention of animal diseases using digital technologies PC-15 ID-2 To be able to evaluate the effectiveness of preventive measures and ways to implement them, using digital technologies as well PC-15 ID-4 To be able to perform diagnostic examination of animals within the framework of medical examination for early detection of disease preclinical and clinical signs PC-15 ID-5 To know the types of measures for the prevention of non-contagious animal diseases and metabolic disorders in animals and the requirements for its implementation, in accordance with methodological guidelines, instructions, manuals, rules for the diagnosis, prevention and treatment of animals						
5	Diagnosis, therapy and prevention of traumatic reticulitis, book blockage and rennet diseases. Traumatic reticulitis. Book blockage, rennet diseases	**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 **GPC-2** Is able to interpret and evaluate in professional activity the influence of natural, socio-economic, genetic and economic factors on the physiological status of the animal body	7		2	2		6

		GPC-2 ID -1 To know: ecology factors of the environment, its classification and the nature of relationships with living organisms; basic ecological concepts; interspecific relations of animals and plants, terms and bio ecology laws, parasites and hosts; ecological features of some types of pathogenic microorganisms; mechanisms of influence of anthropogenic and economic factors on the animal body GPC-2 ID -2 To be able to: use environmental factors and environmental laws in agricultural manufacture; apply the achievements of modern microbiology and ecology of microorganisms in animal husbandry and veterinary medicine in order to prevent infectious and invasive diseases and treat animals; use environmental monitoring methods in the environmental assessment of agricultural facilities and the production of agricultural products; assess the impact on the animal body, anthropogenic and economic factors **PC-3** To set the diagnose based on the analysis of anamnesis, general, special (instrumental) and laboratory research methods PC-3 ID -1 To possess skills to make a diagnosis in accordance with generally accepted criteria and classifications, lists of animal diseases PC-3 ID -2 To possess skills to use specialized information databases for the diagnosis of animal diseases PC-3 ID -3 To possess skills to document the results of clinical animal studies, using digital technologies PC-3 ID -4 /To know the methods of interpretation and data analysis of special (instrumental) methods of animal examination PC-3 ID -5 To know the norms of indicators of the status of animals' biological material of different species and the reasons that cause deviations from the norms PC-3 ID -6 To know the etiology and pathogenesis of animal diseases of various species PC-3 ID -7 To know the generally accepted criteria and classifications of animal diseases, approved lists of animals disease **PC-5** To carry out plan of animal treatment, based on the stated diagnosis and animals individual characteristics, signature of necessary remedies of chemical and biological nature for the treatment, taking into account combination of its pharmacological effect on the animal body PC-5 ID -1 To be able to use specialized information databases at a choice of animal treatment methods PC-5 ID -2 To be able to calculate the amount of remedies for the treatment of animals and the prevention of diseases with the receipts signature for a certain period PC-5 ID -3 To be able to calculate the amount of remedies for the treatment of animals and for the prevention of diseases with the receipts signature for a certain period, using digital technologies as well PC-5 ID -4 To be able to administer drugs to the animals body in various techniques PC-5 ID -5 To know the methods of pharmacological treatment of sick animals and indications for its administration, in accordance with the guidelines, instructions, manuals, rules of diagnosis, prevention and treatment PC-5 ID -8 To know the ways of drug injections, used both for animals enteral (oral, sublingual and rectal administration) and parenteral (injections, inhalations and skin applications) methods **PC-6** The selection of the variety of methods of non-drug therapy, including						

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6	Diagnosis, therapy and prevention of diseases of the upper respiratory tract. Bronchitis	**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 **GPC-2** Is able to interpret and evaluate in professional activity the influence of natural, socio-economic, genetic and economic factors on the physiological status of the animal body GPC-2 ID -1 To know: ecology factors of the environment, its classification and the nature of relationships with living organisms; basic ecological concepts; interspecific relations of animals and plants, terms and bio ecology laws, parasites and hosts; ecological features of some types of pathogenic microorganisms; mechanisms of influence of anthropogenic and economic factors on the animal body GPC-2 ID -2 To be able to: use environmental factors and environmental laws in agricultural manufacture; apply the achievements of modern microbiology and ecology of microorganisms in animal husbandry and veterinary medicine in order to prevent infectious and invasive diseases and treat animals; use environmental monitoring methods in the environmental assessment of agricultural facilities and the production of agricultural products; assess the impact on the animal body, anthropogenic and economic factors **PC-3** To set the diagnose based on the analysis of anamnesis, general, special (instrumental) and laboratory research methods PC-3 ID -1 To possess skills to make a diagnosis in accordance with generally accepted criteria and classifications, lists of animal diseases PC-3 ID -2 To possess skills to use specialized information databases for the diagnosis of animal diseases PC-3 ID -3 To possess skills to document the results of clinical animal studies, using digital technologies PC-3 ID -4 /To know the methods of interpretation and data analysis of special (instrumental) methods of animal examination PC-3 ID -5 To know the norms of indicators of the status of animals' biological material of different species and the reasons that cause deviations from the norms PC-3 ID -6 To know the etiology and pathogenesis of animal diseases of various species	7		2	1	1	5

		PC-3 ID -7 To know the generally accepted criteria and classifications of animal diseases, approved lists of animals disease **PC-5** To carry out plan of animal treatment, based on the stated diagnosis and animals individual characteristics, signature of necessary remedies of chemical and biological nature for the treatment, taking into account combination of its pharmacological effect on the animal body PC-5 ID -1 To be able to use specialized information databases at a choice of animal treatment methods PC-5 ID -2 To be able to calculate the amount of remedies for the treatment of animals and the prevention of diseases with the receipts signature for a certain period PC-5 ID -3 To be able to calculate the amount of remedies for the treatment of animals and for the prevention of diseases with the receipts signature for a certain period, using digital technologies as well PC-5 ID -4 To be able to administer drugs to the animals body in various techniques PC-5 ID -5 To know the methods of pharmacological treatment of sick animals and indications for its administration, in accordance with the guidelines, instructions, manuals, rules of diagnosis, prevention and treatment PC-5 ID -8 To know the ways of drug injections, used both for animals enteral (oral, sublingual and rectal administration) and parenteral (injections, inhalations and skin applications) methods **PC-6** The selection of the variety of methods of non-drug therapy, including physiotherapy methods for the treatment of animals, carry out therapeutic, including physiotherapy procedures using special equipment in compliance with safety rules PC-6 ID-1 To be able to use special, both digital therapeutic equipment and physiotherapy procedures, in accordance with its instructions PC-6 ID-2 To be able to fix animals to ensure safety during medical procedures PC-6 ID-3 To be able to maintain patients documentation on diseases and treatment of animals, using digital technologies PC-6 ID-4 To know the types of non-drug therapy, including physiotherapy, used in veterinary medicine, and the clinical signs for its use PC-6 ID-6 To know the safety rules of manipulation with special equipment during non-drug instrumentation for the animals PC-6 ID-7 To know the methods and techniques of non-drug manipulations for the animal PC-6 ID-8 To know forms and rules for filling out the journal for the registration of sick animals and the animal's medical history in accordance with the requirements of veterinary legislation, in digital format as well **PC-15** Management of organizational, technical, zootechnical and veterinary measures for the prevention of non-contagiouse diseases in accordance with the preventive plan, analysis of the effectiveness of measures for the prevention of animal diseases for its improvement PC-15 ID-1 To be able to assess the impact of animal welfare and feeding conditions on its health as part of the implementation of action plans for the prevention of animal diseases using digital technologies PC-15 ID-2 To be able to evaluate the effectiveness of preventive measures and ways to implement them, using digital technologies as well PC-15 ID-4 To be able to perform diagnostic examination of animals						

		within the framework of medical examination for early detection of disease preclinical and clinical signs PC-15 ID-5 To know the types of measures for the prevention of non-contagious animal diseases and metabolic disorders in animals and the requirements for its implementation, in accordance with methodological guidelines, instructions, manuals, rules for the diagnosis, prevention and treatment of animals **PC-10** Application of follow-up examinations and studies of animals to assess the effectiveness and safety of the prescribed treatment, detalisation of the animal treatment plan (if necessary) based on the results of the evaluation of the treatment effectiveness PC-10 ID -1 To be able to evaluate the effectiveness of treatment PC-10 ID -2 To be able to use specialized information databases when choosing ways for treat animal diseases PC-10 ID -3 To know the methods of drug treatment of sick animals and indications for its use in accordance with the guidelines, instructions, manuals, rules of diagnosis, prevention and treatment of animals **PC-15** Management of organizational, technical, zootechnical and veterinary measures for the prevention of non-contagiouse diseases in accordance with the preventive plan, analysis of the effectiveness of measures for the prevention of animal diseases for its improvement PC-15 ID-1 To be able to assess the impact of animal welfare and feeding conditions on its health as part of the implementation of action plans for the prevention of animal diseases using digital technologies PC-15 ID-2 To be able to evaluate the effectiveness of preventive measures and ways to implement them, using digital technologies as well PC-15 ID-4 To be able to perform diagnostic examination of animals within the framework of medical examination for early detection of disease preclinical and clinical signs PC-15 ID-5 To know the types of measures for the prevention of non-contagious animal diseases and metabolic disorders in animals and the requirements for its implementation, in accordance with methodological guidelines, instructions, manuals, rules for the diagnosis, prevention and treatment of animals						
7	Pneumonia	**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 **GPC-2** Is able to interpret and evaluate in professional activity the influence of natural, socio-economic, genetic and economic factors on the physiological status of the animal body GPC-2 ID -1 To know: ecology factors of the environment, its classification and the nature of relationships with living organisms; basic ecological concepts; interspecific relations of animals and plants, terms and bio ecology laws, parasites and hosts; ecological features of some types of pathogenic microorganisms;	7		2	1	1	5

		mechanisms of influence of anthropogenic and economic factors on the animal body GPC-2 ID -2 To be able to: use environmental factors and environmental laws in agricultural manufacture; apply the achievements of modern microbiology and ecology of microorganisms in animal husbandry and veterinary medicine in order to prevent infectious and invasive diseases and treat animals; use environmental monitoring methods in the environmental assessment of agricultural facilities and the production of agricultural products; assess the impact on the animal body, anthropogenic and economic factors **PC-3** To set the diagnose based on the analysis of anamnesis, general, special (instrumental) and laboratory research methods PC-3 ID -1 To possess skills to make a diagnosis in accordance with generally accepted criteria and classifications, lists of animal diseases PC-3 ID -2 To possess skills to use specialized information databases for the diagnosis of animal diseases PC-3 ID -3 To possess skills to document the results of clinical animal studies, using digital technologies PC-3 ID -4 /To know the methods of interpretation and data analysis of special (instrumental) methods of animal examination PC-3 ID -5 To know the norms of indicators of the status of animals' biological material of different species and the reasons that cause deviations from the norms PC-3 ID -6 To know the etiology and pathogenesis of animal diseases of various species PC-3 ID -7 To know the generally accepted criteria and classifications of animal diseases, approved lists of animals disease **PC-5** To carry out plan of animal treatment, based on the stated diagnosis and animals individual characteristics, signature of necessary remedies of chemical and biological nature for the treatment, taking into account combination of its pharmacological effect on the animal body PC-5 ID -1 To be able to use specialized information databases at a choice of animal treatment methods PC-5 ID -2 To be able to calculate the amount of remedies for the treatment of animals and the prevention of diseases with the receipts signature for a certain period PC-5 ID -3 To be able to calculate the amount of remedies for the treatment of animals and for the prevention of diseases with the receipts signature for a certain period, using digital technologies as well PC-5 ID -4 To be able to administer drugs to the animals body in various techniques PC-5 ID -5 To know the methods of pharmacological treatment of sick animals and indications for its administration, in accordance with the guidelines, instructions, manuals, rules of diagnosis, prevention and treatment PC-5 ID -8 To know the ways of drug injections, used both for animals enteral (oral, sublingual and rectal administration) and parenteral (injections, inhalations and skin applications) methods **PC-6** The selection of the variety of methods of non-drug therapy, including physiotherapy methods for the treatment of animals, carry out therapeutic, including physiotherapy procedures using special equipment in compliance with safety rules PC-6 ID-1 To be able to use special, both digital therapeutic equipment and physiotherapy procedures, in accordance with its instructions						

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		preclinical and clinical signs PC-15 ID-5 To know the types of measures for the prevention of non-contagious animal diseases and metabolic disorders in animals and the requirements for its implementation, in accordance with methodological guidelines, instructions, manuals, rules for the diagnosis, prevention and treatment of animals						
8	Diagnosis, therapy and prevention of croup pneumonia, pulmonary emphysema and pleurisy	**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 **GPC-2** Is able to interpret and evaluate in professional activity the influence of natural, socio-economic, genetic and economic factors on the physiological status of the animal body GPC-2 ID -1 To know: ecology factors of the environment, its classification and the nature of relationships with living organisms; basic ecological concepts; interspecific relations of animals and plants, terms and bio ecology laws, parasites and hosts; ecological features of some types of pathogenic microorganisms; mechanisms of influence of anthropogenic and economic factors on the animal body GPC-2 ID -2 To be able to: use environmental factors and environmental laws in agricultural manufacture; apply the achievements of modern microbiology and ecology of microorganisms in animal husbandry and veterinary medicine in order to prevent infectious and invasive diseases and treat animals; use environmental monitoring methods in the environmental assessment of agricultural facilities and the production of agricultural products; assess the impact on the animal body, anthropogenic and economic factors **PC-3** To set the diagnose based on the analysis of anamnesis, general, special (instrumental) and laboratory research methods PC-3 ID -1 To possess skills to make a diagnosis in accordance with generally accepted criteria and classifications, lists of animal diseases PC-3 ID -2 To possess skills to use specialized information databases for the diagnosis of animal diseases PC-3 ID -3 To possess skills to document the results of clinical animal studies, using digital technologies PC-3 ID -4 /To know the methods of interpretation and data analysis of special (instrumental) methods of animal examination PC-3 ID -5 To know the norms of indicators of the status of animals' biological material of different species and the reasons that cause deviations from the norms PC-3 ID -6 To know the etiology and pathogenesis of animal diseases of various species PC-3 ID -7 To know the generally accepted criteria and classifications of animal diseases, approved lists of animals disease **PC-5** To carry out plan of animal treatment, based on the stated diagnosis and animals individual characteristics, signature of necessary remedies of chemical and	7		2	2		6

		biological nature for the treatment, taking into account combination of its pharmacological effect on the animal body PC-5 ID -1 To be able to use specialized information databases at a choice of animal treatment methods PC-5 ID -2 To be able to calculate the amount of remedies for the treatment of animals and the prevention of diseases with the receipts signature for a certain period PC-5 ID -3 To be able to calculate the amount of remedies for the treatment of animals and for the prevention of diseases with the receipts signature for a certain period, using digital technologies as well PC-5 ID -4 To be able to administer drugs to the animals body in various techniques PC-5 ID -5 To know the methods of pharmacological treatment of sick animals and indications for its administration, in accordance with the guidelines, instructions, manuals, rules of diagnosis, prevention and treatment PC-5 ID -8 To know the ways of drug injections, used both for animals enteral (oral, sublingual and rectal administration) and parenteral (injections, inhalations and skin applications) methods **PC-6** The selection of the variety of methods of non-drug therapy, including physiotherapy methods for the treatment of animals, carry out therapeutic, including physiotherapy procedures using special equipment in compliance with safety rules PC-6 ID-1 To be able to use special, both digital therapeutic equipment and physiotherapy procedures, in accordance with its instructions PC-6 ID-2 To be able to fix animals to ensure safety during medical procedures PC-6 ID-3 To be able to maintain patients documentation on diseases and treatment of animals, using digital technologies PC-6 ID-4 To know the types of non-drug therapy, including physiotherapy, used in veterinary medicine, and the clinical signs for its use PC-6 ID-6 To know the safety rules of manipulation with special equipment during non-drug instrumentation for the animals PC-6 ID-7 To know the methods and techniques of non-drug manipulations for the animal PC-6 ID-8 To know forms and rules for filling out the journal for the registration of sick animals and the animal's medical history in accordance with the requirements of veterinary legislation, in digital format as well **PC-15** Management of organizational, technical, zootechnical and veterinary measures for the prevention of non-contagiouse diseases in accordance with the preventive plan, analysis of the effectiveness of measures for the prevention of animal diseases for its improvement PC-15 ID-1 To be able to assess the impact of animal welfare and feeding conditions on its health as part of the implementation of action plans for the prevention of animal diseases using digital technologies PC-15 ID-2 To be able to evaluate the effectiveness of preventive measures and ways to implement them, using digital technologies as well PC-15 ID-4 To be able to perform diagnostic examination of animals within the framework of medical examination for early detection of disease preclinical and clinical signs PC-15 ID-5 To know the types of measures for the prevention of non-contagious animal diseases and metabolic disorders in animals and the requirements						

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	Total for the 7th semester: 72 hours				**16**	**12**	**4**	**40**
Practical and lecture classes (8th semester)								
1	Liver disease syndromes. Diagnosis, therapy and prevention of hepatitis, hepatosis, cirrhosis	**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 **GPC-2** Is able to interpret and evaluate in professional activity the influence of natural, socio-economic, genetic and economic factors on the physiological status of the animal body GPC-2 ID -1 To know: ecology factors of the environment, its classification and the nature of relationships with living organisms; basic ecological concepts; interspecific relations of animals and plants, terms and bio ecology laws, parasites	8		2	1	1	10

		and hosts; ecological features of some types of pathogenic microorganisms; mechanisms of influence of anthropogenic and economic factors on the animal body GPC-2 ID -2 To be able to: use environmental factors and environmental laws in agricultural manufacture; apply the achievements of modern microbiology and ecology of microorganisms in animal husbandry and veterinary medicine in order to prevent infectious and invasive diseases and treat animals; use environmental monitoring methods in the environmental assessment of agricultural facilities and the production of agricultural products; assess the impact on the animal body, anthropogenic and economic factors **PC-3** To set the diagnose based on the analysis of anamnesis, general, special (instrumental) and laboratory research methods PC-3 ID -1 To possess skills to make a diagnosis in accordance with generally accepted criteria and classifications, lists of animal diseases PC-3 ID -2 To possess skills to use specialized information databases for the diagnosis of animal diseases PC-3 ID -3 To possess skills to document the results of clinical animal studies, using digital technologies PC-3 ID -4 /To know the methods of interpretation and data analysis of special (instrumental) methods of animal examination PC-3 ID -5 To know the norms of indicators of the status of animals' biological material of different species and the reasons that cause deviations from the norms PC-3 ID -6 To know the etiology and pathogenesis of animal diseases of various species PC-3 ID -7 To know the generally accepted criteria and classifications of animal diseases, approved lists of animals disease **PC-5** To carry out plan of animal treatment, based on the stated diagnosis and animals individual characteristics, signature of necessary remedies of chemical and biological nature for the treatment, taking into account combination of its pharmacological effect on the animal body PC-5 ID -1 To be able to use specialized information databases at a choice of animal treatment methods PC-5 ID -2 To be able to calculate the amount of remedies for the treatment of animals and the prevention of diseases with the receipts signature for a certain period PC-5 ID -3 To be able to calculate the amount of remedies for the treatment of animals and for the prevention of diseases with the receipts signature for a certain period, using digital technologies as well PC-5 ID -4 To be able to administer drugs to the animals body in various techniques PC-5 ID -5 To know the methods of pharmacological treatment of sick animals and indications for its administration, in accordance with the guidelines, instructions, manuals, rules of diagnosis, prevention and treatment PC-5 ID -8 To know the ways of drug injections, used both for animals enteral (oral, sublingual and rectal administration) and parenteral (injections, inhalations and skin applications) methods **PC-6** The selection of the variety of methods of non-drug therapy, including physiotherapy methods for the treatment of animals, carry out therapeutic, including physiotherapy procedures using special equipment in compliance with safety rules PC-6 ID-1 To be able to use special, both digital therapeutic equipment						

		and physiotherapy procedures, in accordance with its instructions PC-6 ID-2 To be able to fix animals to ensure safety during medical procedures PC-6 ID-3 To be able to maintain patients documentation on diseases and treatment of animals, using digital technologies PC-6 ID-4 To know the types of non-drug therapy, including physiotherapy, used in veterinary medicine, and the clinical signs for its use PC-6 ID-6 To know the safety rules of manipulation with special equipment during non-drug instrumentation for the animals PC-6 ID-7 To know the methods and techniques of non-drug manipulations for the animal PC-6 ID-8 To know forms and rules for filling out the journal for the registration of sick animals and the animal's medical history in accordance with the requirements of veterinary legislation, in digital format as well **PC-15** Management of organizational, technical, zootechnical and veterinary measures for the prevention of non-contagiouse diseases in accordance with the preventive plan, analysis of the effectiveness of measures for the prevention of animal diseases for its improvement PC-15 ID-1 To be able to assess the impact of animal welfare and feeding conditions on its health as part of the implementation of action plans for the prevention of animal diseases using digital technologies PC-15 ID-2 To be able to evaluate the effectiveness of preventive measures and ways to implement them, using digital technologies as well PC-15 ID-4 To be able to perform diagnostic examination of animals within the framework of medical examination for early detection of disease preclinical and clinical signs PC-15 ID-5 To know the types of measures for the prevention of non-contagious animal diseases and metabolic disorders in animals and the requirements for its implementation, in accordance with methodological guidelines, instructions, manuals, rules for the diagnosis, prevention and treatment of animals **PC-10** Application of follow-up examinations and studies of animals to assess the effectiveness and safety of the prescribed treatment, detalisation of the animal treatment plan (if necessary) based on the results of the evaluation of the treatment effectiveness PC-10 ID -1 To be able to evaluate the effectiveness of treatment PC-10 ID -2 To be able to use specialized information databases when choosing ways for treat animal diseases PC-10 ID -3 To know the methods of drug treatment of sick animals and indications for its use in accordance with the guidelines, instructions, manuals, rules of diagnosis, prevention and treatment of animals **PC-15** Management of organizational, technical, zootechnical and veterinary measures for the prevention of non-contagiouse diseases in accordance with the preventive plan, analysis of the effectiveness of measures for the prevention of animal diseases for its improvement PC-15 ID-1 To be able to assess the impact of animal welfare and feeding conditions on its health as part of the implementation of action plans for the prevention of animal diseases using digital technologies PC-15 ID-2 To be able to evaluate the effectiveness of preventive measures and ways to implement them, using digital technologies as well PC-15 ID-4 To be able to perform diagnostic examination of animals						

		within the framework of medical examination for early detection of disease preclinical and clinical signs PC-15 ID-5 To know the types of measures for the prevention of non-contagious animal diseases and metabolic disorders in animals and the requirements for its implementation, in accordance with methodological guidelines, instructions, manuals, rules for the diagnosis, prevention and treatment of animals						
2	Diagnosis, therapy and prevention of diseases of the biliary tract	**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 **GPC-2** Is able to interpret and evaluate in professional activity the influence of natural, socio-economic, genetic and economic factors on the physiological status of the animal body GPC-2 ID -1 To know: ecology factors of the environment, its classification and the nature of relationships with living organisms; basic ecological concepts; interspecific relations of animals and plants, terms and bio ecology laws, parasites and hosts; ecological features of some types of pathogenic microorganisms; mechanisms of influence of anthropogenic and economic factors on the animal body GPC-2 ID -2 To be able to: use environmental factors and environmental laws in agricultural manufacture; apply the achievements of modern microbiology and ecology of microorganisms in animal husbandry and veterinary medicine in order to prevent infectious and invasive diseases and treat animals; use environmental monitoring methods in the environmental assessment of agricultural facilities and the production of agricultural products; assess the impact on the animal body, anthropogenic and economic factors **PC-3** To set the diagnose based on the analysis of anamnesis, general, special (instrumental) and laboratory research methods PC-3 ID -1 To possess skills to make a diagnosis in accordance with generally accepted criteria and classifications, lists of animal diseases PC-3 ID -2 To possess skills to use specialized information databases for the diagnosis of animal diseases PC-3 ID -3 To possess skills to document the results of clinical animal studies, using digital technologies PC-3 ID -4 /To know the methods of interpretation and data analysis of special (instrumental) methods of animal examination PC-3 ID -5 To know the norms of indicators of the status of animals' biological material of different species and the reasons that cause deviations from the norms PC-3 ID -6 To know the etiology and pathogenesis of animal diseases of various species PC-3 ID -7 To know the generally accepted criteria and classifications of animal diseases, approved lists of animals disease **PC-5** To carry out plan of animal treatment, based on the stated diagnosis and	8		2	2		10

		animals individual characteristics, signature of necessary remedies of chemical and biological nature for the treatment, taking into account combination of its pharmacological effect on the animal body PC-5 ID -1 To be able to use specialized information databases at a choice of animal treatment methods PC-5 ID -2 To be able to calculate the amount of remedies for the treatment of animals and the prevention of diseases with the receipts signature for a certain period PC-5 ID -3 To be able to calculate the amount of remedies for the treatment of animals and for the prevention of diseases with the receipts signature for a certain period, using digital technologies as well PC-5 ID -4 To be able to administer drugs to the animals body in various techniques PC-5 ID -5 To know the methods of pharmacological treatment of sick animals and indications for its administration, in accordance with the guidelines, instructions, manuals, rules of diagnosis, prevention and treatment PC-5 ID -8 To know the ways of drug injections, used both for animals enteral (oral, sublingual and rectal administration) and parenteral (injections, inhalations and skin applications) methods **PC-6** The selection of the variety of methods of non-drug therapy, including physiotherapy methods for the treatment of animals, carry out therapeutic, including physiotherapy procedures using special equipment in compliance with safety rules PC-6 ID-1 To be able to use special, both digital therapeutic equipment and physiotherapy procedures, in accordance with its instructions PC-6 ID-2 To be able to fix animals to ensure safety during medical procedures PC-6 ID-3 To be able to maintain patients documentation on diseases and treatment of animals, using digital technologies PC-6 ID-4 To know the types of non-drug therapy, including physiotherapy, used in veterinary medicine, and the clinical signs for its use PC-6 ID-6 To know the safety rules of manipulation with special equipment during non-drug instrumentation for the animals PC-6 ID-7 To know the methods and techniques of non-drug manipulations for the animal PC-6 ID-8 To know forms and rules for filling out the journal for the registration of sick animals and the animal's medical history in accordance with the requirements of veterinary legislation, in digital format as well **PC-15** Management of organizational, technical, zootechnical and veterinary measures for the prevention of non-contagiouse diseases in accordance with the preventive plan, analysis of the effectiveness of measures for the prevention of animal diseases for its improvement PC-15 ID-1 To be able to assess the impact of animal welfare and feeding conditions on its health as part of the implementation of action plans for the prevention of animal diseases using digital technologies PC-15 ID-2 To be able to evaluate the effectiveness of preventive measures and ways to implement them, using digital technologies as well PC-15 ID-4 To be able to perform diagnostic examination of animals within the framework of medical examination for early detection of disease preclinical and clinical signs PC-15 ID-5 To know the types of measures for the prevention of non-						

		contagious animal diseases and metabolic disorders in animals and the requirements for its implementation, in accordance with methodological guidelines, instructions, manuals, rules for the diagnosis, prevention and treatment of animals **PC-10** Application of follow-up examinations and studies of animals to assess the effectiveness and safety of the prescribed treatment, detalisation of the animal treatment plan (if necessary) based on the results of the evaluation of the treatment effectiveness PC-10 ID -1 To be able to evaluate the effectiveness of treatment PC-10 ID -2 To be able to use specialized information databases when choosing ways for treat animal diseases PC-10 ID -3 To know the methods of drug treatment of sick animals and indications for its use in accordance with the guidelines, instructions, manuals, rules of diagnosis, prevention and treatment of animals **PC-15** Management of organizational, technical, zootechnical and veterinary measures for the prevention of non-contagiouse diseases in accordance with the preventive plan, analysis of the effectiveness of measures for the prevention of animal diseases for its improvement PC-15 ID-1 To be able to assess the impact of animal welfare and feeding conditions on its health as part of the implementation of action plans for the prevention of animal diseases using digital technologies PC-15 ID-2 To be able to evaluate the effectiveness of preventive measures and ways to implement them, using digital technologies as well PC-15 ID-4 To be able to perform diagnostic examination of animals within the framework of medical examination for early detection of disease preclinical and clinical signs PC-15 ID-5 To know the types of measures for the prevention of non-contagious animal diseases and metabolic disorders in animals and the requirements for its implementation, in accordance with methodological guidelines, instructions, manuals, rules for the diagnosis, prevention and treatment of animals						
3	Diagnosis, therapy and spastic forms of colic: intestinal tympanum, acute gastric dilation. Enteralgia. Diagnosis, therapy and prevention of chemostasis, coprostasis, mechanical forms of colic (obturation ileus)	**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 **GPC-2** Is able to interpret and evaluate in professional activity the influence of natural, socio-economic, genetic and economic factors on the physiological status of the animal body GPC-2 ID -1 To know: ecology factors of the environment, its classification and the nature of relationships with living organisms; basic ecological concepts; interspecific relations of animals and plants, terms and bio ecology laws, parasites and hosts; ecological features of some types of pathogenic microorganisms; mechanisms of influence of anthropogenic and economic factors on the animal body GPC-2 ID -2 To be able to: use environmental factors and environmental laws in agricultural manufacture; apply the achievements of modern microbiology	8		2	1	1	10

		and ecology of microorganisms in animal husbandry and veterinary medicine in order to prevent infectious and invasive diseases and treat animals; use environmental monitoring methods in the environmental assessment of agricultural facilities and the production of agricultural products; assess the impact on the animal body, anthropogenic and economic factors **PC-3** To set the diagnose based on the analysis of anamnesis, general, special (instrumental) and laboratory research methods PC-3 ID -1 To possess skills to make a diagnosis in accordance with generally accepted criteria and classifications, lists of animal diseases PC-3 ID -2 To possess skills to use specialized information databases for the diagnosis of animal diseases PC-3 ID -3 To possess skills to document the results of clinical animal studies, using digital technologies PC-3 ID -4 /To know the methods of interpretation and data analysis of special (instrumental) methods of animal examination PC-3 ID -5 To know the norms of indicators of the status of animals' biological material of different species and the reasons that cause deviations from the norms PC-3 ID -6 To know the etiology and pathogenesis of animal diseases of various species PC-3 ID -7 To know the generally accepted criteria and classifications of animal diseases, approved lists of animals disease **PC-5** To carry out plan of animal treatment, based on the stated diagnosis and animals individual characteristics, signature of necessary remedies of chemical and biological nature for the treatment, taking into account combination of its pharmacological effect on the animal body PC-5 ID -1 To be able to use specialized information databases at a choice of animal treatment methods PC-5 ID -2 To be able to calculate the amount of remedies for the treatment of animals and the prevention of diseases with the receipts signature for a certain period PC-5 ID -3 To be able to calculate the amount of remedies for the treatment of animals and for the prevention of diseases with the receipts signature for a certain period, using digital technologies as well PC-5 ID -4 To be able to administer drugs to the animals body in various techniques PC-5 ID -5 To know the methods of pharmacological treatment of sick animals and indications for its administration, in accordance with the guidelines, instructions, manuals, rules of diagnosis, prevention and treatment PC-5 ID -8 To know the ways of drug injections, used both for animals enteral (oral, sublingual and rectal administration) and parenteral (injections, inhalations and skin applications) methods **PC-6** The selection of the variety of methods of non-drug therapy, including physiotherapy methods for the treatment of animals, carry out therapeutic, including physiotherapy procedures using special equipment in compliance with safety rules PC-6 ID-1 To be able to use special, both digital therapeutic equipment and physiotherapy procedures, in accordance with its instructions PC-6 ID-2 To be able to fix animals to ensure safety during medical procedures PC-6 ID-3 To be able to maintain patients documentation on diseases and						

		treatment of animals, using digital technologies PC-6 ID-4 To know the types of non-drug therapy, including physiotherapy, used in veterinary medicine, and the clinical signs for its use PC-6 ID-6 To know the safety rules of manipulation with special equipment during non-drug instrumentation for the animals PC-6 ID-7 To know the methods and techniques of non-drug manipulations for the animal PC-6 ID-8 To know forms and rules for filling out the journal for the registration of sick animals and the animal's medical history in accordance with the requirements of veterinary legislation, in digital format as well **PC-15** Management of organizational, technical, zootechnical and veterinary measures for the prevention of non-contagiouse diseases in accordance with the preventive plan, analysis of the effectiveness of measures for the prevention of animal diseases for its improvement PC-15 ID-1 To be able to assess the impact of animal welfare and feeding conditions on its health as part of the implementation of action plans for the prevention of animal diseases using digital technologies PC-15 ID-2 To be able to evaluate the effectiveness of preventive measures and ways to implement them, using digital technologies as well PC-15 ID-4 To be able to perform diagnostic examination of animals within the framework of medical examination for early detection of disease preclinical and clinical signs PC-15 ID-5 To know the types of measures for the prevention of non-contagious animal diseases and metabolic disorders in animals and the requirements for its implementation, in accordance with methodological guidelines, instructions, manuals, rules for the diagnosis, prevention and treatment of animals **PC-10** Application of follow-up examinations and studies of animals to assess the effectiveness and safety of the prescribed treatment, detalisation of the animal treatment plan (if necessary) based on the results of the evaluation of the treatment effectiveness PC-10 ID -1 To be able to evaluate the effectiveness of treatment PC-10 ID -2 To be able to use specialized information databases when choosing ways for treat animal diseases PC-10 ID -3 To know the methods of drug treatment of sick animals and indications for its use in accordance with the guidelines, instructions, manuals, rules of diagnosis, prevention and treatment of animals **PC-15** Management of organizational, technical, zootechnical and veterinary measures for the prevention of non-contagiouse diseases in accordance with the preventive plan, analysis of the effectiveness of measures for the prevention of animal diseases for its improvement PC-15 ID-1 To be able to assess the impact of animal welfare and feeding conditions on its health as part of the implementation of action plans for the prevention of animal diseases using digital technologies PC-15 ID-2 To be able to evaluate the effectiveness of preventive measures and ways to implement them, using digital technologies as well PC-15 ID-4 To be able to perform diagnostic examination of animals within the framework of medical examination for early detection of disease preclinical and clinical signs PC-15 ID-5 To know the types of measures for the prevention of non-contagious animal diseases and metabolic disorders in animals and the requirements						

		for its implementation, in accordance with methodological guidelines, instructions, manuals, rules for the diagnosis, prevention and treatment of animals						
4	Diagnosis, therapy and prevention of strangulation and hemostatic ileus, sand colic, peritonitis, ascites	**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 **GPC-2** Is able to interpret and evaluate in professional activity the influence of natural, socio-economic, genetic and economic factors on the physiological status of the animal body GPC-2 ID -1 To know: ecology factors of the environment, its classification and the nature of relationships with living organisms; basic ecological concepts; interspecific relations of animals and plants, terms and bio ecology laws, parasites and hosts; ecological features of some types of pathogenic microorganisms; mechanisms of influence of anthropogenic and economic factors on the animal body GPC-2 ID -2 To be able to: use environmental factors and environmental laws in agricultural manufacture; apply the achievements of modern microbiology and ecology of microorganisms in animal husbandry and veterinary medicine in order to prevent infectious and invasive diseases and treat animals; use environmental monitoring methods in the environmental assessment of agricultural facilities and the production of agricultural products; assess the impact on the animal body, anthropogenic and economic factors **PC-3** To set the diagnose based on the analysis of anamnesis, general, special (instrumental) and laboratory research methods PC-3 ID -1 To possess skills to make a diagnosis in accordance with generally accepted criteria and classifications, lists of animal diseases PC-3 ID -2 To possess skills to use specialized information databases for the diagnosis of animal diseases PC-3 ID -3 To possess skills to document the results of clinical animal studies, using digital technologies PC-3 ID -4 /To know the methods of interpretation and data analysis of special (instrumental) methods of animal examination PC-3 ID -5 To know the norms of indicators of the status of animals' biological material of different species and the reasons that cause deviations from the norms PC-3 ID -6 To know the etiology and pathogenesis of animal diseases of various species PC-3 ID -7 To know the generally accepted criteria and classifications of animal diseases, approved lists of animals disease **PC-5** To carry out plan of animal treatment, based on the stated diagnosis and animals individual characteristics, signature of necessary remedies of chemical and biological nature for the treatment, taking into account combination of its pharmacological effect on the animal body PC-5 ID -1 To be able to use specialized information databases at a choice	8		2	2		10

		of animal treatment methods PC-5 ID -2 To be able to calculate the amount of remedies for the treatment of animals and the prevention of diseases with the receipts signature for a certain period PC-5 ID -3 To be able to calculate the amount of remedies for the treatment of animals and for the prevention of diseases with the receipts signature for a certain period, using digital technologies as well PC-5 ID -4 To be able to administer drugs to the animals body in various techniques PC-5 ID -5 To know the methods of pharmacological treatment of sick animals and indications for its administration, in accordance with the guidelines, instructions, manuals, rules of diagnosis, prevention and treatment PC-5 ID -8 To know the ways of drug injections, used both for animals enteral (oral, sublingual and rectal administration) and parenteral (injections, inhalations and skin applications) methods **PC-6** The selection of the variety of methods of non-drug therapy, including physiotherapy methods for the treatment of animals, carry out therapeutic, including physiotherapy procedures using special equipment in compliance with safety rules PC-6 ID-1 To be able to use special, both digital therapeutic equipment and physiotherapy procedures, in accordance with its instructions PC-6 ID-2 To be able to fix animals to ensure safety during medical procedures PC-6 ID-3 To be able to maintain patients documentation on diseases and treatment of animals, using digital technologies PC-6 ID-4 To know the types of non-drug therapy, including physiotherapy, used in veterinary medicine, and the clinical signs for its use PC-6 ID-6 To know the safety rules of manipulation with special equipment during non-drug instrumentation for the animals PC-6 ID-7 To know the methods and techniques of non-drug manipulations for the animal PC-6 ID-8 To know forms and rules for filling out the journal for the registration of sick animals and the animal's medical history in accordance with the requirements of veterinary legislation, in digital format as well **PC-15** Management of organizational, technical, zootechnical and veterinary measures for the prevention of non-contagiouse diseases in accordance with the preventive plan, analysis of the effectiveness of measures for the prevention of animal diseases for its improvement PC-15 ID-1 To be able to assess the impact of animal welfare and feeding conditions on its health as part of the implementation of action plans for the prevention of animal diseases using digital technologies PC-15 ID-2 To be able to evaluate the effectiveness of preventive measures and ways to implement them, using digital technologies as well PC-15 ID-4 To be able to perform diagnostic examination of animals within the framework of medical examination for early detection of disease preclinical and clinical signs PC-15 ID-5 To know the types of measures for the prevention of non-contagious animal diseases and metabolic disorders in animals and the requirements for its implementation, in accordance with methodological guidelines, instructions, manuals, rules for the diagnosis, prevention and treatment of animals **PC-10** Application of follow-up examinations and studies of animals to assess						

		the effectiveness and safety of the prescribed treatment, detalisation of the animal treatment plan (if necessary) based on the results of the evaluation of the treatment effectiveness PC-10 ID -1 To be able to evaluate the effectiveness of treatment PC-10 ID -2 To be able to use specialized information databases when choosing ways for treat animal diseases PC-10 ID -3 To know the methods of drug treatment of sick animals and indications for its use in accordance with the guidelines, instructions, manuals, rules of diagnosis, prevention and treatment of animals **PC-15** Management of organizational, technical, zootechnical and veterinary measures for the prevention of non-contagiouse diseases in accordance with the preventive plan, analysis of the effectiveness of measures for the prevention of animal diseases for its improvement PC-15 ID-1 To be able to assess the impact of animal welfare and feeding conditions on its health as part of the implementation of action plans for the prevention of animal diseases using digital technologies PC-15 ID-2 To be able to evaluate the effectiveness of preventive measures and ways to implement them, using digital technologies as well PC-15 ID-4 To be able to perform diagnostic examination of animals within the framework of medical examination for early detection of disease preclinical and clinical signs PC-15 ID-5 To know the types of measures for the prevention of non-contagious animal diseases and metabolic disorders in animals and the requirements for its implementation, in accordance with methodological guidelines, instructions, manuals, rules for the diagnosis, prevention and treatment of animals						
5	Diagnosis, therapy and prevention of pericarditis. Diagnosis, therapy and prevention of myocarditis, myocardosis Diagnosis, therapy and prevention of acute septic endocarditis	**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 **GPC-2** Is able to interpret and evaluate in professional activity the influence of natural, socio-economic, genetic and economic factors on the physiological status of the animal body GPC-2 ID -1 To know: ecology factors of the environment, its classification and the nature of relationships with living organisms; basic ecological concepts; interspecific relations of animals and plants, terms and bio ecology laws, parasites and hosts; ecological features of some types of pathogenic microorganisms; mechanisms of influence of anthropogenic and economic factors on the animal body GPC-2 ID -2 To be able to: use environmental factors and environmental laws in agricultural manufacture; apply the achievements of modern microbiology and ecology of microorganisms in animal husbandry and veterinary medicine in order to prevent infectious and invasive diseases and treat animals; use environmental monitoring methods in the environmental assessment of agricultural facilities and the production of agricultural products; assess the impact on the animal	8		2	1	1	10

		body, anthropogenic and economic factors **PC-3** To set the diagnose based on the analysis of anamnesis, general, special (instrumental) and laboratory research methods PC-3 ID -1 To possess skills to make a diagnosis in accordance with generally accepted criteria and classifications, lists of animal diseases PC-3 ID -2 To possess skills to use specialized information databases for the diagnosis of animal diseases PC-3 ID -3 To possess skills to document the results of clinical animal studies, using digital technologies PC-3 ID -4 /To know the methods of interpretation and data analysis of special (instrumental) methods of animal examination PC-3 ID -5 To know the norms of indicators of the status of animals' biological material of different species and the reasons that cause deviations from the norms PC-3 ID -6 To know the etiology and pathogenesis of animal diseases of various species PC-3 ID -7 To know the generally accepted criteria and classifications of animal diseases, approved lists of animals disease **PC-5** To carry out plan of animal treatment, based on the stated diagnosis and animals individual characteristics, signature of necessary remedies of chemical and biological nature for the treatment, taking into account combination of its pharmacological effect on the animal body PC-5 ID -1 To be able to use specialized information databases at a choice of animal treatment methods PC-5 ID -2 To be able to calculate the amount of remedies for the treatment of animals and the prevention of diseases with the receipts signature for a certain period PC-5 ID -3 To be able to calculate the amount of remedies for the treatment of animals and for the prevention of diseases with the receipts signature for a certain period, using digital technologies as well PC-5 ID -4 To be able to administer drugs to the animals body in various techniques PC-5 ID -5 To know the methods of pharmacological treatment of sick animals and indications for its administration, in accordance with the guidelines, instructions, manuals, rules of diagnosis, prevention and treatment PC-5 ID -8 To know the ways of drug injections, used both for animals enteral (oral, sublingual and rectal administration) and parenteral (injections, inhalations and skin applications) methods **PC-6** The selection of the variety of methods of non-drug therapy, including physiotherapy methods for the treatment of animals, carry out therapeutic, including physiotherapy procedures using special equipment in compliance with safety rules PC-6 ID-1 To be able to use special, both digital therapeutic equipment and physiotherapy procedures, in accordance with its instructions PC-6 ID-2 To be able to fix animals to ensure safety during medical procedures PC-6 ID-3 To be able to maintain patients documentation on diseases and treatment of animals, using digital technologies PC-6 ID-4 To know the types of non-drug therapy, including physiotherapy, used in veterinary medicine, and the clinical signs for its use PC-6 ID-6 To know the safety rules of manipulation with special						

		equipment during non-drug instrumentation for the animals PC-6 ID-7 To know the methods and techniques of non-drug manipulations for the animal PC-6 ID-8 To know forms and rules for filling out the journal for the registration of sick animals and the animal's medical history in accordance with the requirements of veterinary legislation, in digital format as well **PC-15** Management of organizational, technical, zootechnical and veterinary measures for the prevention of non-contagiouse diseases in accordance with the preventive plan, analysis of the effectiveness of measures for the prevention of animal diseases for its improvement PC-15 ID-1 To be able to assess the impact of animal welfare and feeding conditions on its health as part of the implementation of action plans for the prevention of animal diseases using digital technologies PC-15 ID-2 To be able to evaluate the effectiveness of preventive measures and ways to implement them, using digital technologies as well PC-15 ID-4 To be able to perform diagnostic examination of animals within the framework of medical examination for early detection of disease preclinical and clinical signs PC-15 ID-5 To know the types of measures for the prevention of non-contagious animal diseases and metabolic disorders in animals and the requirements for its implementation, in accordance with methodological guidelines, instructions, manuals, rules for the diagnosis, prevention and treatment of animals **PC-10** Application of follow-up examinations and studies of animals to assess the effectiveness and safety of the prescribed treatment, detalisation of the animal treatment plan (if necessary) based on the results of the evaluation of the treatment effectiveness PC-10 ID -1 To be able to evaluate the effectiveness of treatment PC-10 ID -2 To be able to use specialized information databases when choosing ways for treat animal diseases PC-10 ID -3 To know the methods of drug treatment of sick animals and indications for its use in accordance with the guidelines, instructions, manuals, rules of diagnosis, prevention and treatment of animals **PC-15** Management of organizational, technical, zootechnical and veterinary measures for the prevention of non-contagiouse diseases in accordance with the preventive plan, analysis of the effectiveness of measures for the prevention of animal diseases for its improvement PC-15 ID-1 To be able to assess the impact of animal welfare and feeding conditions on its health as part of the implementation of action plans for the prevention of animal diseases using digital technologies PC-15 ID-2 To be able to evaluate the effectiveness of preventive measures and ways to implement them, using digital technologies as well PC-15 ID-4 To be able to perform diagnostic examination of animals within the framework of medical examination for early detection of disease preclinical and clinical signs PC-15 ID-5 To know the types of measures for the prevention of non-contagious animal diseases and metabolic disorders in animals and the requirements for its implementation, in accordance with methodological guidelines, instructions, manuals, rules for the diagnosis, prevention and treatment of animals						
6	Diagnosis, therapy	**GPC-1** Is able to determine the biological status, normal clinical signs of organs	8		2	1	1	9

	and prevention of hypovitaminosis A, dyspepsia. Diagnosis, therapy and prevention of bezoar disease, periodic calf tympany, toxic liver dystrophy of piglets. Diagnosis, therapy and prevention of bronchopneumonia, hypovitaminosis D, rickets	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 **GPC-2** Is able to interpret and evaluate in professional activity the influence of natural, socio-economic, genetic and economic factors on the physiological status of the animal body GPC-2 ID -1 To know: ecology factors of the environment, its classification and the nature of relationships with living organisms; basic ecological concepts; interspecific relations of animals and plants, terms and bio ecology laws, parasites and hosts; ecological features of some types of pathogenic microorganisms; mechanisms of influence of anthropogenic and economic factors on the animal body GPC-2 ID -2 To be able to: use environmental factors and environmental laws in agricultural manufacture; apply the achievements of modern microbiology and ecology of microorganisms in animal husbandry and veterinary medicine in order to prevent infectious and invasive diseases and treat animals; use environmental monitoring methods in the environmental assessment of agricultural facilities and the production of agricultural products; assess the impact on the animal body, anthropogenic and economic factors **PC-3** To set the diagnose based on the analysis of anamnesis, general, special (instrumental) and laboratory research methods PC-3 ID -1 To possess skills to make a diagnosis in accordance with generally accepted criteria and classifications, lists of animal diseases PC-3 ID -2 To possess skills to use specialized information databases for the diagnosis of animal diseases PC-3 ID -3 To possess skills to document the results of clinical animal studies, using digital technologies PC-3 ID -4 /To know the methods of interpretation and data analysis of special (instrumental) methods of animal examination PC-3 ID -5 To know the norms of indicators of the status of animals' biological material of different species and the reasons that cause deviations from the norms PC-3 ID -6 To know the etiology and pathogenesis of animal diseases of various species PC-3 ID -7 To know the generally accepted criteria and classifications of animal diseases, approved lists of animals disease **PC-5** To carry out plan of animal treatment, based on the stated diagnosis and animals individual characteristics, signature of necessary remedies of chemical and biological nature for the treatment, taking into account combination of its pharmacological effect on the animal body PC-5 ID -1 To be able to use specialized information databases at a choice of animal treatment methods PC-5 ID -2 To be able to calculate the amount of remedies for the treatment of animals and the prevention of diseases with the receipts signature for a certain period						

		PC-5 ID -3 To be able to calculate the amount of remedies for the treatment of animals and for the prevention of diseases with the receipts signature for a certain period, using digital technologies as well PC-5 ID -4 To be able to administer drugs to the animals body in various techniques PC-5 ID -5 To know the methods of pharmacological treatment of sick animals and indications for its administration, in accordance with the guidelines, instructions, manuals, rules of diagnosis, prevention and treatment PC-5 ID -8 To know the ways of drug injections, used both for animals enteral (oral, sublingual and rectal administration) and parenteral (injections, inhalations and skin applications) methods **PC-6** The selection of the variety of methods of non-drug therapy, including physiotherapy methods for the treatment of animals, carry out therapeutic, including physiotherapy procedures using special equipment in compliance with safety rules PC-6 ID-1 To be able to use special, both digital therapeutic equipment and physiotherapy procedures, in accordance with its instructions PC-6 ID-2 To be able to fix animals to ensure safety during medical procedures PC-6 ID-3 To be able to maintain patients documentation on diseases and treatment of animals, using digital technologies PC-6 ID-4 To know the types of non-drug therapy, including physiotherapy, used in veterinary medicine, and the clinical signs for its use PC-6 ID-6 To know the safety rules of manipulation with special equipment during non-drug instrumentation for the animals PC-6 ID-7 To know the methods and techniques of non-drug manipulations for the animal PC-6 ID-8 To know forms and rules for filling out the journal for the registration of sick animals and the animal's medical history in accordance with the requirements of veterinary legislation, in digital format as well **PC-15** Management of organizational, technical, zootechnical and veterinary measures for the prevention of non-contagiouse diseases in accordance with the preventive plan, analysis of the effectiveness of measures for the prevention of animal diseases for its improvement PC-15 ID-1 To be able to assess the impact of animal welfare and feeding conditions on its health as part of the implementation of action plans for the prevention of animal diseases using digital technologies PC-15 ID-2 To be able to evaluate the effectiveness of preventive measures and ways to implement them, using digital technologies as well PC-15 ID-4 To be able to perform diagnostic examination of animals within the framework of medical examination for early detection of disease preclinical and clinical signs PC-15 ID-5 To know the types of measures for the prevention of non-contagious animal diseases and metabolic disorders in animals and the requirements for its implementation, in accordance with methodological guidelines, instructions, manuals, rules for the diagnosis, prevention and treatment of animals **PC-10** Application of follow-up examinations and studies of animals to assess the effectiveness and safety of the prescribed treatment, detalisation of the animal treatment plan (if necessary) based on the results of the evaluation of the treatment effectiveness PC-10 ID -1 To be able to evaluate the effectiveness of treatment						

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7	Diagnosis, therapy and prevention of hypovitaminosis E, white muscle disease, alimentary disease. Diagnosis, therapy and prevention of enzootic ataxia of lambs, parakeratosis of piglets	**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 **GPC-2** Is able to interpret and evaluate in professional activity the influence of natural, socio-economic, genetic and economic factors on the physiological status of the animal body GPC-2 ID -1 To know: ecology factors of the environment, its classification and the nature of relationships with living organisms; basic ecological concepts; interspecific relations of animals and plants, terms and bio ecology laws, parasites and hosts; ecological features of some types of pathogenic microorganisms; mechanisms of influence of anthropogenic and economic factors on the animal body GPC-2 ID -2 To be able to: use environmental factors and environmental laws in agricultural manufacture; apply the achievements of modern microbiology and ecology of microorganisms in animal husbandry and veterinary medicine in order to prevent infectious and invasive diseases and treat animals; use environmental monitoring methods in the environmental assessment of agricultural facilities and the production of agricultural products; assess the impact on the animal body, anthropogenic and economic factors **PC-3** To set the diagnose based on the analysis of anamnesis, general, special (instrumental) and laboratory research methods PC-3 ID -1 To possess skills to make a diagnosis in accordance with	8		2	1	1	9

		generally accepted criteria and classifications, lists of animal diseases PC-3 ID -2 To possess skills to use specialized information databases for the diagnosis of animal diseases PC-3 ID -3 To possess skills to document the results of clinical animal studies, using digital technologies PC-3 ID -4 /To know the methods of interpretation and data analysis of special (instrumental) methods of animal examination PC-3 ID -5 To know the norms of indicators of the status of animals' biological material of different species and the reasons that cause deviations from the norms PC-3 ID -6 To know the etiology and pathogenesis of animal diseases of various species PC-3 ID -7 To know the generally accepted criteria and classifications of animal diseases, approved lists of animals disease **PC-5** To carry out plan of animal treatment, based on the stated diagnosis and animals individual characteristics, signature of necessary remedies of chemical and biological nature for the treatment, taking into account combination of its pharmacological effect on the animal body PC-5 ID -1 To be able to use specialized information databases at a choice of animal treatment methods PC-5 ID -2 To be able to calculate the amount of remedies for the treatment of animals and the prevention of diseases with the receipts signature for a certain period PC-5 ID -3 To be able to calculate the amount of remedies for the treatment of animals and for the prevention of diseases with the receipts signature for a certain period, using digital technologies as well PC-5 ID -4 To be able to administer drugs to the animals body in various techniques PC-5 ID -5 To know the methods of pharmacological treatment of sick animals and indications for its administration, in accordance with the guidelines, instructions, manuals, rules of diagnosis, prevention and treatment PC-5 ID -8 To know the ways of drug injections, used both for animals enteral (oral, sublingual and rectal administration) and parenteral (injections, inhalations and skin applications) methods **PC-6** The selection of the variety of methods of non-drug therapy, including physiotherapy methods for the treatment of animals, carry out therapeutic, including physiotherapy procedures using special equipment in compliance with safety rules PC-6 ID-1 To be able to use special, both digital therapeutic equipment and physiotherapy procedures, in accordance with its instructions PC-6 ID-2 To be able to fix animals to ensure safety during medical procedures PC-6 ID-3 To be able to maintain patients documentation on diseases and treatment of animals, using digital technologies PC-6 ID-4 To know the types of non-drug therapy, including physiotherapy, used in veterinary medicine, and the clinical signs for its use PC-6 ID-6 To know the safety rules of manipulation with special equipment during non-drug instrumentation for the animals PC-6 ID-7 To know the methods and techniques of non-drug manipulations for the animal PC-6 ID-8 To know forms and rules for filling out the journal for the						

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8	Diagnosis, therapy and prevention of diseases of small pets	**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	8		2	1	1	8

		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 **GPC-2** Is able to interpret and evaluate in professional activity the influence of natural, socio-economic, genetic and economic factors on the physiological status of the animal body GPC-2 ID -1 To know: ecology factors of the environment, its classification and the nature of relationships with living organisms; basic ecological concepts; interspecific relations of animals and plants, terms and bio ecology laws, parasites and hosts; ecological features of some types of pathogenic microorganisms; mechanisms of influence of anthropogenic and economic factors on the animal body GPC-2 ID -2 To be able to: use environmental factors and environmental laws in agricultural manufacture; apply the achievements of modern microbiology and ecology of microorganisms in animal husbandry and veterinary medicine in order to prevent infectious and invasive diseases and treat animals; use environmental monitoring methods in the environmental assessment of agricultural facilities and the production of agricultural products; assess the impact on the animal body, anthropogenic and economic factors **PC-3** To set the diagnose based on the analysis of anamnesis, general, special (instrumental) and laboratory research methods PC-3 ID -1 To possess skills to make a diagnosis in accordance with generally accepted criteria and classifications, lists of animal diseases PC-3 ID -2 To possess skills to use specialized information databases for the diagnosis of animal diseases PC-3 ID -3 To possess skills to document the results of clinical animal studies, using digital technologies PC-3 ID -4 /To know the methods of interpretation and data analysis of special (instrumental) methods of animal examination PC-3 ID -5 To know the norms of indicators of the status of animals' biological material of different species and the reasons that cause deviations from the norms PC-3 ID -6 To know the etiology and pathogenesis of animal diseases of various species PC-3 ID -7 To know the generally accepted criteria and classifications of animal diseases, approved lists of animals disease **PC-5** To carry out plan of animal treatment, based on the stated diagnosis and animals individual characteristics, signature of necessary remedies of chemical and biological nature for the treatment, taking into account combination of its pharmacological effect on the animal body PC-5 ID -1 To be able to use specialized information databases at a choice of animal treatment methods PC-5 ID -2 To be able to calculate the amount of remedies for the treatment of animals and the prevention of diseases with the receipts signature for a certain period PC-5 ID -3 To be able to calculate the amount of remedies for the treatment of animals and for the prevention of diseases with the receipts signature for a certain period, using digital technologies as well PC-5 ID -4 To be able to administer drugs to the animals body in various						

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	Total for the 8th semester: 108 hours				**16**	**10**	**6**	**76**
Practical and lecture classes (8th semester)								
1	Consultations on the preparation of academic case histories, diary reports, completed during the period of work practice. Analysis of interesting cases of animal diseases during practical training	**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	9	3	6	5	1	6
2	Clinical and laboratory studies of animals with diseases of the urinary system. Classification, syndromatics of diseases of the urinary system. Diagnosis, therapy and prevention of nephritis, nephrosis	**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 **GPC-2** Is able to interpret and evaluate in professional activity the influence of natural, socio-economic, genetic and economic factors on the physiological status of the animal body GPC-2 ID -1 To know: ecology factors of the environment, its classification	9	4	4	3	1	6

		and the nature of relationships with living organisms; basic ecological concepts; interspecific relations of animals and plants, terms and bio ecology laws, parasites and hosts; ecological features of some types of pathogenic microorganisms; mechanisms of influence of anthropogenic and economic factors on the animal body GPC-2 ID -2 To be able to: use environmental factors and environmental laws in agricultural manufacture; apply the achievements of modern microbiology and ecology of microorganisms in animal husbandry and veterinary medicine in order to prevent infectious and invasive diseases and treat animals; use environmental monitoring methods in the environmental assessment of agricultural facilities and the production of agricultural products; assess the impact on the animal body, anthropogenic and economic factors **PC-3** To set the diagnose based on the analysis of anamnesis, general, special (instrumental) and laboratory research methods PC-3 ID -1 To possess skills to make a diagnosis in accordance with generally accepted criteria and classifications, lists of animal diseases PC-3 ID -2 To possess skills to use specialized information databases for the diagnosis of animal diseases PC-3 ID -3 To possess skills to document the results of clinical animal studies, using digital technologies PC-3 ID -4 /To know the methods of interpretation and data analysis of special (instrumental) methods of animal examination PC-3 ID -5 To know the norms of indicators of the status of animals' biological material of different species and the reasons that cause deviations from the norms PC-3 ID -6 To know the etiology and pathogenesis of animal diseases of various species PC-3 ID -7 To know the generally accepted criteria and classifications of animal diseases, approved lists of animals disease **PC-5** To carry out plan of animal treatment, based on the stated diagnosis and animals individual characteristics, signature of necessary remedies of chemical and biological nature for the treatment, taking into account combination of its pharmacological effect on the animal body PC-5 ID -1 To be able to use specialized information databases at a choice of animal treatment methods PC-5 ID -2 To be able to calculate the amount of remedies for the treatment of animals and the prevention of diseases with the receipts signature for a certain period PC-5 ID -3 To be able to calculate the amount of remedies for the treatment of animals and for the prevention of diseases with the receipts signature for a certain period, using digital technologies as well PC-5 ID -4 To be able to administer drugs to the animals body in various techniques PC-5 ID -5 To know the methods of pharmacological treatment of sick animals and indications for its administration, in accordance with the guidelines, instructions, manuals, rules of diagnosis, prevention and treatment PC-5 ID -8 To know the ways of drug injections, used both for animals enteral (oral, sublingual and rectal administration) and parenteral (injections, inhalations and skin applications) methods **PC-6** The selection of the variety of methods of non-drug therapy, including physiotherapy methods for the treatment of animals, carry out therapeutic, including						

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		measures and ways to implement them, using digital technologies as well PC-15 ID-4 To be able to perform diagnostic examination of animals within the framework of medical examination for early detection of disease preclinical and clinical signs PC-15 ID-5 To know the types of measures for the prevention of non-contagious animal diseases and metabolic disorders in animals and the requirements for its implementation, in accordance with methodological guidelines, instructions, manuals, rules for the diagnosis, prevention and treatment of animals						
3	Diagnosis, therapy and prevention of pyelonephritis, nephrosclerosis. Diagnosis, therapy and prevention of urolithiasis of animals. Diagnosis, therapy and prevention of pyelitis, bladder paralysis, chronic bovine hematuria	**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 **GPC-2** Is able to interpret and evaluate in professional activity the influence of natural, socio-economic, genetic and economic factors on the physiological status of the animal body GPC-2 ID -1 To know: ecology factors of the environment, its classification and the nature of relationships with living organisms; basic ecological concepts; interspecific relations of animals and plants, terms and bio ecology laws, parasites and hosts; ecological features of some types of pathogenic microorganisms; mechanisms of influence of anthropogenic and economic factors on the animal body GPC-2 ID -2 To be able to: use environmental factors and environmental laws in agricultural manufacture; apply the achievements of modern microbiology and ecology of microorganisms in animal husbandry and veterinary medicine in order to prevent infectious and invasive diseases and treat animals; use environmental monitoring methods in the environmental assessment of agricultural facilities and the production of agricultural products; assess the impact on the animal body, anthropogenic and economic factors **PC-3** To set the diagnose based on the analysis of anamnesis, general, special (instrumental) and laboratory research methods PC-3 ID -1 To possess skills to make a diagnosis in accordance with generally accepted criteria and classifications, lists of animal diseases PC-3 ID -2 To possess skills to use specialized information databases for the diagnosis of animal diseases PC-3 ID -3 To possess skills to document the results of clinical animal studies, using digital technologies PC-3 ID -4 /To know the methods of interpretation and data analysis of special (instrumental) methods of animal examination PC-3 ID -5 To know the norms of indicators of the status of animals' biological material of different species and the reasons that cause deviations from the norms PC-3 ID -6 To know the etiology and pathogenesis of animal diseases of various species PC-3 ID -7 To know the generally accepted criteria and classifications of	9	3	4	3	1	6

		animal diseases, approved lists of animals disease **PC-5** To carry out plan of animal treatment, based on the stated diagnosis and animals individual characteristics, signature of necessary remedies of chemical and biological nature for the treatment, taking into account combination of its pharmacological effect on the animal body PC-5 ID -1 To be able to use specialized information databases at a choice of animal treatment methods PC-5 ID -2 To be able to calculate the amount of remedies for the treatment of animals and the prevention of diseases with the receipts signature for a certain period PC-5 ID -3 To be able to calculate the amount of remedies for the treatment of animals and for the prevention of diseases with the receipts signature for a certain period, using digital technologies as well PC-5 ID -4 To be able to administer drugs to the animals body in various techniques PC-5 ID -5 To know the methods of pharmacological treatment of sick animals and indications for its administration, in accordance with the guidelines, instructions, manuals, rules of diagnosis, prevention and treatment PC-5 ID -8 To know the ways of drug injections, used both for animals enteral (oral, sublingual and rectal administration) and parenteral (injections, inhalations and skin applications) methods **PC-6** The selection of the variety of methods of non-drug therapy, including physiotherapy methods for the treatment of animals, carry out therapeutic, including physiotherapy procedures using special equipment in compliance with safety rules PC-6 ID-1 To be able to use special, both digital therapeutic equipment and physiotherapy procedures, in accordance with its instructions PC-6 ID-2 To be able to fix animals to ensure safety during medical procedures PC-6 ID-3 To be able to maintain patients documentation on diseases and treatment of animals, using digital technologies PC-6 ID-4 To know the types of non-drug therapy, including physiotherapy, used in veterinary medicine, and the clinical signs for its use PC-6 ID-6 To know the safety rules of manipulation with special equipment during non-drug instrumentation for the animals PC-6 ID-7 To know the methods and techniques of non-drug manipulations for the animal PC-6 ID-8 To know forms and rules for filling out the journal for the registration of sick animals and the animal's medical history in accordance with the requirements of veterinary legislation, in digital format as well **PC-15** Management of organizational, technical, zootechnical and veterinary measures for the prevention of non-contagiouse diseases in accordance with the preventive plan, analysis of the effectiveness of measures for the prevention of animal diseases for its improvement PC-15 ID-1 To be able to assess the impact of animal welfare and feeding conditions on its health as part of the implementation of action plans for the prevention of animal diseases using digital technologies PC-15 ID-2 To be able to evaluate the effectiveness of preventive measures and ways to implement them, using digital technologies as well PC-15 ID-4 To be able to perform diagnostic examination of animals within the framework of medical examination for early detection of disease						

		preclinical and clinical signs PC-15 ID-5 To know the types of measures for the prevention of non-contagious animal diseases and metabolic disorders in animals and the requirements for its implementation, in accordance with methodological guidelines, instructions, manuals, rules for the diagnosis, prevention and treatment of animals **PC-10** Application of follow-up examinations and studies of animals to assess the effectiveness and safety of the prescribed treatment, detalisation of the animal treatment plan (if necessary) based on the results of the evaluation of the treatment effectiveness PC-10 ID -1 To be able to evaluate the effectiveness of treatment PC-10 ID -2 To be able to use specialized information databases when choosing ways for treat animal diseases PC-10 ID -3 To know the methods of drug treatment of sick animals and indications for its use in accordance with the guidelines, instructions, manuals, rules of diagnosis, prevention and treatment of animals **PC-15** Management of organizational, technical, zootechnical and veterinary measures for the prevention of non-contagiouse diseases in accordance with the preventive plan, analysis of the effectiveness of measures for the prevention of animal diseases for its improvement PC-15 ID-1 To be able to assess the impact of animal welfare and feeding conditions on its health as part of the implementation of action plans for the prevention of animal diseases using digital technologies PC-15 ID-2 To be able to evaluate the effectiveness of preventive measures and ways to implement them, using digital technologies as well PC-15 ID-4 To be able to perform diagnostic examination of animals within the framework of medical examination for early detection of disease preclinical and clinical signs PC-15 ID-5 To know the types of measures for the prevention of non-contagious animal diseases and metabolic disorders in animals and the requirements for its implementation, in accordance with methodological guidelines, instructions, manuals, rules for the diagnosis, prevention and treatment of animals						
4	Diseases of the blood system. Laboratory blood tests. Clinical analysis of the results of examination of sick animals with clinical signs of anemia. Diagnosis, therapy and prevention of anemia. Diagnosis, treatment and prevention of hemorrhagic diathesis	**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 **GPC-2** Is able to interpret and evaluate in professional activity the influence of natural, socio-economic, genetic and economic factors on the physiological status of the animal body GPC-2 ID -1 To know: ecology factors of the environment, its classification and the nature of relationships with living organisms; basic ecological concepts; interspecific relations of animals and plants, terms and bio ecology laws, parasites and hosts; ecological features of some types of pathogenic microorganisms; mechanisms of influence of anthropogenic and economic factors on the animal body	9	3	4	3	1	6

		GPC-2 ID -2 To be able to: use environmental factors and environmental laws in agricultural manufacture; apply the achievements of modern microbiology and ecology of microorganisms in animal husbandry and veterinary medicine in order to prevent infectious and invasive diseases and treat animals; use environmental monitoring methods in the environmental assessment of agricultural facilities and the production of agricultural products; assess the impact on the animal body, anthropogenic and economic factors **PC-3** To set the diagnose based on the analysis of anamnesis, general, special (instrumental) and laboratory research methods PC-3 ID -1 To possess skills to make a diagnosis in accordance with generally accepted criteria and classifications, lists of animal diseases PC-3 ID -2 To possess skills to use specialized information databases for the diagnosis of animal diseases PC-3 ID -3 To possess skills to document the results of clinical animal studies, using digital technologies PC-3 ID -4 /To know the methods of interpretation and data analysis of special (instrumental) methods of animal examination PC-3 ID -5 To know the norms of indicators of the status of animals' biological material of different species and the reasons that cause deviations from the norms PC-3 ID -6 To know the etiology and pathogenesis of animal diseases of various species PC-3 ID -7 To know the generally accepted criteria and classifications of animal diseases, approved lists of animals disease **PC-5** To carry out plan of animal treatment, based on the stated diagnosis and animals individual characteristics, signature of necessary remedies of chemical and biological nature for the treatment, taking into account combination of its pharmacological effect on the animal body PC-5 ID -1 To be able to use specialized information databases at a choice of animal treatment methods PC-5 ID -2 To be able to calculate the amount of remedies for the treatment of animals and the prevention of diseases with the receipts signature for a certain period PC-5 ID -3 To be able to calculate the amount of remedies for the treatment of animals and for the prevention of diseases with the receipts signature for a certain period, using digital technologies as well PC-5 ID -4 To be able to administer drugs to the animals body in various techniques PC-5 ID -5 To know the methods of pharmacological treatment of sick animals and indications for its administration, in accordance with the guidelines, instructions, manuals, rules of diagnosis, prevention and treatment PC-5 ID -8 To know the ways of drug injections, used both for animals enteral (oral, sublingual and rectal administration) and parenteral (injections, inhalations and skin applications) methods **PC-6** The selection of the variety of methods of non-drug therapy, including physiotherapy methods for the treatment of animals, carry out therapeutic, including physiotherapy procedures using special equipment in compliance with safety rules PC-6 ID-1 To be able to use special, both digital therapeutic equipment and physiotherapy procedures, in accordance with its instructions PC-6 ID-2 To be able to fix animals to ensure safety during medical						

		procedures PC-6 ID-3 To be able to maintain patients documentation on diseases and treatment of animals, using digital technologies PC-6 ID-4 To know the types of non-drug therapy, including physiotherapy, used in veterinary medicine, and the clinical signs for its use PC-6 ID-6 To know the safety rules of manipulation with special equipment during non-drug instrumentation for the animals PC-6 ID-7 To know the methods and techniques of non-drug manipulations for the animal PC-6 ID-8 To know forms and rules for filling out the journal for the registration of sick animals and the animal's medical history in accordance with the requirements of veterinary legislation, in digital format as well **PC-15** Management of organizational, technical, zootechnical and veterinary measures for the prevention of non-contagiouse diseases in accordance with the preventive plan, analysis of the effectiveness of measures for the prevention of animal diseases for its improvement PC-15 ID-1 To be able to assess the impact of animal welfare and feeding conditions on its health as part of the implementation of action plans for the prevention of animal diseases using digital technologies PC-15 ID-2 To be able to evaluate the effectiveness of preventive measures and ways to implement them, using digital technologies as well PC-15 ID-4 To be able to perform diagnostic examination of animals within the framework of medical examination for early detection of disease preclinical and clinical signs PC-15 ID-5 To know the types of measures for the prevention of non-contagious animal diseases and metabolic disorders in animals and the requirements for its implementation, in accordance with methodological guidelines, instructions, manuals, rules for the diagnosis, prevention and treatment of animals **PC-10** Application of follow-up examinations and studies of animals to assess the effectiveness and safety of the prescribed treatment, detalisation of the animal treatment plan (if necessary) based on the results of the evaluation of the treatment effectiveness PC-10 ID -1 To be able to evaluate the effectiveness of treatment PC-10 ID -2 To be able to use specialized information databases when choosing ways for treat animal diseases PC-10 ID -3 To know the methods of drug treatment of sick animals and indications for its use in accordance with the guidelines, instructions, manuals, rules of diagnosis, prevention and treatment of animals **PC-15** Management of organizational, technical, zootechnical and veterinary measures for the prevention of non-contagiouse diseases in accordance with the preventive plan, analysis of the effectiveness of measures for the prevention of animal diseases for its improvement PC-15 ID-1 To be able to assess the impact of animal welfare and feeding conditions on its health as part of the implementation of action plans for the prevention of animal diseases using digital technologies PC-15 ID-2 To be able to evaluate the effectiveness of preventive measures and ways to implement them, using digital technologies as well PC-15 ID-4 To be able to perform diagnostic examination of animals within the framework of medical examination for early detection of disease preclinical and clinical signs						

		PC-15 ID-5 To know the types of measures for the prevention of non-contagious animal diseases and metabolic disorders in animals and the requirements for its implementation, in accordance with methodological guidelines, instructions, manuals, rules for the diagnosis, prevention and treatment of animals						
5	Diagnosis, therapy and prevention of immune deficits in animals. Diagnosis, therapy and prevention of allergic and hyperimmune diseases of 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 **GPC-2** Is able to interpret and evaluate in professional activity the influence of natural, socio-economic, genetic and economic factors on the physiological status of the animal body GPC-2 ID -1 To know: ecology factors of the environment, its classification and the nature of relationships with living organisms; basic ecological concepts; interspecific relations of animals and plants, terms and bio ecology laws, parasites and hosts; ecological features of some types of pathogenic microorganisms; mechanisms of influence of anthropogenic and economic factors on the animal body GPC-2 ID -2 To be able to: use environmental factors and environmental laws in agricultural manufacture; apply the achievements of modern microbiology and ecology of microorganisms in animal husbandry and veterinary medicine in order to prevent infectious and invasive diseases and treat animals; use environmental monitoring methods in the environmental assessment of agricultural facilities and the production of agricultural products; assess the impact on the animal body, anthropogenic and economic factors **PC-3** To set the diagnose based on the analysis of anamnesis, general, special (instrumental) and laboratory research methods PC-3 ID -1 To possess skills to make a diagnosis in accordance with generally accepted criteria and classifications, lists of animal diseases PC-3 ID -2 To possess skills to use specialized information databases for the diagnosis of animal diseases PC-3 ID -3 To possess skills to document the results of clinical animal studies, using digital technologies PC-3 ID -4 /To know the methods of interpretation and data analysis of special (instrumental) methods of animal examination PC-3 ID -5 To know the norms of indicators of the status of animals' biological material of different species and the reasons that cause deviations from the norms PC-3 ID -6 To know the etiology and pathogenesis of animal diseases of various species PC-3 ID -7 To know the generally accepted criteria and classifications of animal diseases, approved lists of animals disease **PC-5** To carry out plan of animal treatment, based on the stated diagnosis and animals individual characteristics, signature of necessary remedies of chemical and biological nature for the treatment, taking into account combination of its	9	4	4	3	1	6

		pharmacological effect on the animal body PC-5 ID -1 To be able to use specialized information databases at a choice of animal treatment methods PC-5 ID -2 To be able to calculate the amount of remedies for the treatment of animals and the prevention of diseases with the receipts signature for a certain period PC-5 ID -3 To be able to calculate the amount of remedies for the treatment of animals and for the prevention of diseases with the receipts signature for a certain period, using digital technologies as well PC-5 ID -4 To be able to administer drugs to the animals body in various techniques PC-5 ID -5 To know the methods of pharmacological treatment of sick animals and indications for its administration, in accordance with the guidelines, instructions, manuals, rules of diagnosis, prevention and treatment PC-5 ID -8 To know the ways of drug injections, used both for animals enteral (oral, sublingual and rectal administration) and parenteral (injections, inhalations and skin applications) methods **PC-6** The selection of the variety of methods of non-drug therapy, including physiotherapy methods for the treatment of animals, carry out therapeutic, including physiotherapy procedures using special equipment in compliance with safety rules PC-6 ID-1 To be able to use special, both digital therapeutic equipment and physiotherapy procedures, in accordance with its instructions PC-6 ID-2 To be able to fix animals to ensure safety during medical procedures PC-6 ID-3 To be able to maintain patients documentation on diseases and treatment of animals, using digital technologies PC-6 ID-4 To know the types of non-drug therapy, including physiotherapy, used in veterinary medicine, and the clinical signs for its use PC-6 ID-6 To know the safety rules of manipulation with special equipment during non-drug instrumentation for the animals PC-6 ID-7 To know the methods and techniques of non-drug manipulations for the animal PC-6 ID-8 To know forms and rules for filling out the journal for the registration of sick animals and the animal's medical history in accordance with the requirements of veterinary legislation, in digital format as well **PC-15** Management of organizational, technical, zootechnical and veterinary measures for the prevention of non-contagiouse diseases in accordance with the preventive plan, analysis of the effectiveness of measures for the prevention of animal diseases for its improvement PC-15 ID-1 To be able to assess the impact of animal welfare and feeding conditions on its health as part of the implementation of action plans for the prevention of animal diseases using digital technologies PC-15 ID-2 To be able to evaluate the effectiveness of preventive measures and ways to implement them, using digital technologies as well PC-15 ID-4 To be able to perform diagnostic examination of animals within the framework of medical examination for early detection of disease preclinical and clinical signs PC-15 ID-5 To know the types of measures for the prevention of non-contagious animal diseases and metabolic disorders in animals and the requirements for its implementation, in accordance with methodological guidelines, instructions,						

		manuals, rules for the diagnosis, prevention and treatment of animals **PC-10** Application of follow-up examinations and studies of animals to assess the effectiveness and safety of the prescribed treatment, detalisation of the animal treatment plan (if necessary) based on the results of the evaluation of the treatment effectiveness PC-10 ID -1 To be able to evaluate the effectiveness of treatment PC-10 ID -2 To be able to use specialized information databases when choosing ways for treat animal diseases PC-10 ID -3 To know the methods of drug treatment of sick animals and indications for its use in accordance with the guidelines, instructions, manuals, rules of diagnosis, prevention and treatment of animals **PC-15** Management of organizational, technical, zootechnical and veterinary measures for the prevention of non-contagiouse diseases in accordance with the preventive plan, analysis of the effectiveness of measures for the prevention of animal diseases for its improvement PC-15 ID-1 To be able to assess the impact of animal welfare and feeding conditions on its health as part of the implementation of action plans for the prevention of animal diseases using digital technologies PC-15 ID-2 To be able to evaluate the effectiveness of preventive measures and ways to implement them, using digital technologies as well PC-15 ID-4 To be able to perform diagnostic examination of animals within the framework of medical examination for early detection of disease preclinical and clinical signs PC-15 ID-5 To know the types of measures for the prevention of non-contagious animal diseases and metabolic disorders in animals and the requirements for its implementation, in accordance with methodological guidelines, instructions, manuals, rules for the diagnosis, prevention and treatment of animals						
6	Ketoses of farm animals (etiology, diagnosis, treatment and prevention) Diagnosis, treatment and prevention of pasture tetany and myoglobinuria. Diagnosis, therapy and prevention of osteodystrophy. Diagnosis, treatment and prevention of microelementosis in 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 **GPC-2** Is able to interpret and evaluate in professional activity the influence of natural, socio-economic, genetic and economic factors on the physiological status of the animal body GPC-2 ID -1 To know: ecology factors of the environment, its classification and the nature of relationships with living organisms; basic ecological concepts; interspecific relations of animals and plants, terms and bio ecology laws, parasites and hosts; ecological features of some types of pathogenic microorganisms; mechanisms of influence of anthropogenic and economic factors on the animal body GPC-2 ID -2 To be able to: use environmental factors and environmental laws in agricultural manufacture; apply the achievements of modern microbiology and ecology of microorganisms in animal husbandry and veterinary medicine in order to prevent infectious and invasive diseases and treat animals; use	9	3	4	3	1	6

		environmental monitoring methods in the environmental assessment of agricultural facilities and the production of agricultural products; assess the impact on the animal body, anthropogenic and economic factors **PC-3** To set the diagnose based on the analysis of anamnesis, general, special (instrumental) and laboratory research methods PC-3 ID -1 To possess skills to make a diagnosis in accordance with generally accepted criteria and classifications, lists of animal diseases PC-3 ID -2 To possess skills to use specialized information databases for the diagnosis of animal diseases PC-3 ID -3 To possess skills to document the results of clinical animal studies, using digital technologies PC-3 ID -4 /To know the methods of interpretation and data analysis of special (instrumental) methods of animal examination PC-3 ID -5 To know the norms of indicators of the status of animals' biological material of different species and the reasons that cause deviations from the norms PC-3 ID -6 To know the etiology and pathogenesis of animal diseases of various species PC-3 ID -7 To know the generally accepted criteria and classifications of animal diseases, approved lists of animals disease **PC-5** To carry out plan of animal treatment, based on the stated diagnosis and animals individual characteristics, signature of necessary remedies of chemical and biological nature for the treatment, taking into account combination of its pharmacological effect on the animal body PC-5 ID -1 To be able to use specialized information databases at a choice of animal treatment methods PC-5 ID -2 To be able to calculate the amount of remedies for the treatment of animals and the prevention of diseases with the receipts signature for a certain period PC-5 ID -3 To be able to calculate the amount of remedies for the treatment of animals and for the prevention of diseases with the receipts signature for a certain period, using digital technologies as well PC-5 ID -4 To be able to administer drugs to the animals body in various techniques PC-5 ID -5 To know the methods of pharmacological treatment of sick animals and indications for its administration, in accordance with the guidelines, instructions, manuals, rules of diagnosis, prevention and treatment PC-5 ID -8 To know the ways of drug injections, used both for animals enteral (oral, sublingual and rectal administration) and parenteral (injections, inhalations and skin applications) methods **PC-6** The selection of the variety of methods of non-drug therapy, including physiotherapy methods for the treatment of animals, carry out therapeutic, including physiotherapy procedures using special equipment in compliance with safety rules PC-6 ID-1 To be able to use special, both digital therapeutic equipment and physiotherapy procedures, in accordance with its instructions PC-6 ID-2 To be able to fix animals to ensure safety during medical procedures PC-6 ID-3 To be able to maintain patients documentation on diseases and treatment of animals, using digital technologies PC-6 ID-4 To know the types of non-drug therapy, including						

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7	Diagnosis, therapy and prevention of anemia and hyperemia of the brain and its membranes, heat and sunstroke. Diagnosis, therapy and prevention of inflammation of the brain and its membranes. Diagnosis, treatment and prevention of neuroses and stress in 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 **GPC-2** Is able to interpret and evaluate in professional activity the influence of natural, socio-economic, genetic and economic factors on the physiological status of the animal body GPC-2 ID -1 To know: ecology factors of the environment, its classification and the nature of relationships with living organisms; basic ecological concepts; interspecific relations of animals and plants, terms and bio ecology laws, parasites and hosts; ecological features of some types of pathogenic microorganisms; mechanisms of influence of anthropogenic and economic factors on the animal body GPC-2 ID -2 To be able to: use environmental factors and environmental laws in agricultural manufacture; apply the achievements of modern microbiology and ecology of microorganisms in animal husbandry and veterinary medicine in order to prevent infectious and invasive diseases and treat animals; use environmental monitoring methods in the environmental assessment of agricultural facilities and the production of agricultural products; assess the impact on the animal body, anthropogenic and economic factors **PC-3** To set the diagnose based on the analysis of anamnesis, general, special (instrumental) and laboratory research methods PC-3 ID -1 To possess skills to make a diagnosis in accordance with generally accepted criteria and classifications, lists of animal diseases PC-3 ID -2 To possess skills to use specialized information databases for the diagnosis of animal diseases PC-3 ID -3 To possess skills to document the results of clinical animal studies, using digital technologies PC-3 ID -4 /To know the methods of interpretation and data analysis of special (instrumental) methods of animal examination PC-3 ID -5 To know the norms of indicators of the status of animals' biological material of different species and the reasons that cause deviations from the norms PC-3 ID -6 To know the etiology and pathogenesis of animal diseases of various species PC-3 ID -7 To know the generally accepted criteria and classifications of animal diseases, approved lists of animals disease **PC-5** To carry out plan of animal treatment, based on the stated diagnosis and animals individual characteristics, signature of necessary remedies of chemical and biological nature for the treatment, taking into account combination of its pharmacological effect on the animal body PC-5 ID -1 To be able to use specialized information databases at a choice of animal treatment methods PC-5 ID -2 To be able to calculate the amount of remedies for the treatment of animals and the prevention of diseases with the receipts signature for a	9	3	4	3	1	6

		certain period PC-5 ID -3 To be able to calculate the amount of remedies for the treatment of animals and for the prevention of diseases with the receipts signature for a certain period, using digital technologies as well PC-5 ID -4 To be able to administer drugs to the animals body in various techniques PC-5 ID -5 To know the methods of pharmacological treatment of sick animals and indications for its administration, in accordance with the guidelines, instructions, manuals, rules of diagnosis, prevention and treatment PC-5 ID -8 To know the ways of drug injections, used both for animals enteral (oral, sublingual and rectal administration) and parenteral (injections, inhalations and skin applications) methods **PC-6** The selection of the variety of methods of non-drug therapy, including physiotherapy methods for the treatment of animals, carry out therapeutic, including physiotherapy procedures using special equipment in compliance with safety rules PC-6 ID-1 To be able to use special, both digital therapeutic equipment and physiotherapy procedures, in accordance with its instructions PC-6 ID-2 To be able to fix animals to ensure safety during medical procedures PC-6 ID-3 To be able to maintain patients documentation on diseases and treatment of animals, using digital technologies PC-6 ID-4 To know the types of non-drug therapy, including physiotherapy, used in veterinary medicine, and the clinical signs for its use PC-6 ID-6 To know the safety rules of manipulation with special equipment during non-drug instrumentation for the animals PC-6 ID-7 To know the methods and techniques of non-drug manipulations for the animal PC-6 ID-8 To know forms and rules for filling out the journal for the registration of sick animals and the animal's medical history in accordance with the requirements of veterinary legislation, in digital format as well **PC-15** Management of organizational, technical, zootechnical and veterinary measures for the prevention of non-contagiouse diseases in accordance with the preventive plan, analysis of the effectiveness of measures for the prevention of animal diseases for its improvement PC-15 ID-1 To be able to assess the impact of animal welfare and feeding conditions on its health as part of the implementation of action plans for the prevention of animal diseases using digital technologies PC-15 ID-2 To be able to evaluate the effectiveness of preventive measures and ways to implement them, using digital technologies as well PC-15 ID-4 To be able to perform diagnostic examination of animals within the framework of medical examination for early detection of disease preclinical and clinical signs PC-15 ID-5 To know the types of measures for the prevention of non-contagious animal diseases and metabolic disorders in animals and the requirements for its implementation, in accordance with methodological guidelines, instructions, manuals, rules for the diagnosis, prevention and treatment of animals **PC-10** Application of follow-up examinations and studies of animals to assess the effectiveness and safety of the prescribed treatment, detalisation of the animal treatment plan (if necessary) based on the results of the evaluation of the treatment effectiveness						

		PC-10 ID -1 To be able to evaluate the effectiveness of treatment PC-10 ID -2 To be able to use specialized information databases when choosing ways for treat animal diseases PC-10 ID -3 To know the methods of drug treatment of sick animals and indications for its use in accordance with the guidelines, instructions, manuals, rules of diagnosis, prevention and treatment of animals **PC-15** Management of organizational, technical, zootechnical and veterinary measures for the prevention of non-contagiouse diseases in accordance with the preventive plan, analysis of the effectiveness of measures for the prevention of animal diseases for its improvement PC-15 ID-1 To be able to assess the impact of animal welfare and feeding conditions on its health as part of the implementation of action plans for the prevention of animal diseases using digital technologies PC-15 ID-2 To be able to evaluate the effectiveness of preventive measures and ways to implement them, using digital technologies as well PC-15 ID-4 To be able to perform diagnostic examination of animals within the framework of medical examination for early detection of disease preclinical and clinical signs PC-15 ID-5 To know the types of measures for the prevention of non-contagious animal diseases and metabolic disorders in animals and the requirements for its implementation, in accordance with methodological guidelines, instructions, manuals, rules for the diagnosis, prevention and treatment of animals						
8	Diagnosis, treatment and prevention of poisoning with organochlorine and phosphorous compounds. Diagnosis, therapy and prevention of substandard feed and products of their processing. Diagnosis, therapy and prevention of toxicosis with lupin, table salt, urea, mycotoxicosis	**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 **GPC-2** Is able to interpret and evaluate in professional activity the influence of natural, socio-economic, genetic and economic factors on the physiological status of the animal body GPC-2 ID -1 To know: ecology factors of the environment, its classification and the nature of relationships with living organisms; basic ecological concepts; interspecific relations of animals and plants, terms and bio ecology laws, parasites and hosts; ecological features of some types of pathogenic microorganisms; mechanisms of influence of anthropogenic and economic factors on the animal body GPC-2 ID -2 To be able to: use environmental factors and environmental laws in agricultural manufacture; apply the achievements of modern microbiology and ecology of microorganisms in animal husbandry and veterinary medicine in order to prevent infectious and invasive diseases and treat animals; use environmental monitoring methods in the environmental assessment of agricultural facilities and the production of agricultural products; assess the impact on the animal body, anthropogenic and economic factors **PC-3** To set the diagnose based on the analysis of anamnesis, general, special (instrumental) and laboratory research methods	9	4	4	3	1	6

		PC-3 ID -1 To possess skills to make a diagnosis in accordance with generally accepted criteria and classifications, lists of animal diseases PC-3 ID -2 To possess skills to use specialized information databases for the diagnosis of animal diseases PC-3 ID -3 To possess skills to document the results of clinical animal studies, using digital technologies PC-3 ID -4 /To know the methods of interpretation and data analysis of special (instrumental) methods of animal examination PC-3 ID -5 To know the norms of indicators of the status of animals' biological material of different species and the reasons that cause deviations from the norms PC-3 ID -6 To know the etiology and pathogenesis of animal diseases of various species PC-3 ID -7 To know the generally accepted criteria and classifications of animal diseases, approved lists of animals disease **PC-5** To carry out plan of animal treatment, based on the stated diagnosis and animals individual characteristics, signature of necessary remedies of chemical and biological nature for the treatment, taking into account combination of its pharmacological effect on the animal body PC-5 ID -1 To be able to use specialized information databases at a choice of animal treatment methods PC-5 ID -2 To be able to calculate the amount of remedies for the treatment of animals and the prevention of diseases with the receipts signature for a certain period PC-5 ID -3 To be able to calculate the amount of remedies for the treatment of animals and for the prevention of diseases with the receipts signature for a certain period, using digital technologies as well PC-5 ID -4 To be able to administer drugs to the animals body in various techniques PC-5 ID -5 To know the methods of pharmacological treatment of sick animals and indications for its administration, in accordance with the guidelines, instructions, manuals, rules of diagnosis, prevention and treatment PC-5 ID -8 To know the ways of drug injections, used both for animals enteral (oral, sublingual and rectal administration) and parenteral (injections, inhalations and skin applications) methods **PC-6** The selection of the variety of methods of non-drug therapy, including physiotherapy methods for the treatment of animals, carry out therapeutic, including physiotherapy procedures using special equipment in compliance with safety rules PC-6 ID-1 To be able to use special, both digital therapeutic equipment and physiotherapy procedures, in accordance with its instructions PC-6 ID-2 To be able to fix animals to ensure safety during medical procedures PC-6 ID-3 To be able to maintain patients documentation on diseases and treatment of animals, using digital technologies PC-6 ID-4 To know the types of non-drug therapy, including physiotherapy, used in veterinary medicine, and the clinical signs for its use PC-6 ID-6 To know the safety rules of manipulation with special equipment during non-drug instrumentation for the animals PC-6 ID-7 To know the methods and techniques of non-drug manipulations for the animal						

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	Total hours (9th semester): 144 hours			**27**	**34**	**26**	**8**	**49**

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

6.1. Guidelines for self -work

1. Guidelines for organizing independent work in the discipline "Internal Non-Contagious Diseases" for students studying in the specialty "Veterinary Medicine" / compiled by A. V. Yashin, G. G. Shcherbakov, A. Ya. Batrakov [et al.]; Ministry of Agriculture of the Russian Federation, St. Petersburg State Academy of Veterinary Medicine. - St. Petersburg : Falcon Print, 2017. - 26 p. – URL: https://search.spbguvm.informsystema.ru/viewer.jsp?aWQ9MjgyJnBzPTI1 (date of request: 06/24/2025).- Access mode: for authorization. EB SPbGUVM users.

2. Kulyakov, G. V. Dispensary of farm animals : methodical recommendations / G. V. Kulyakov ; SPbGAVM. - Saint Petersburg : SPbGAVM, 2012. - 19 p. - URL: https://search.spbguvm.informsystema.ru/viewer.jsp?aWQ9ODcmcHM9MjA= (date of access: 06/24/2025). - Access mode: for authorized users of the SPbGUVM EB.

3. Prevention of Non-Contagious Diseases in Productive Animals: A Methodological Guide / Compiled by A. V. Yashin, G. G. Shcherbakov, and G. V. Kulyakov; St. Petersburg State Academy of Veterinary Medicine. - St. Petersburg: St. Petersburg State Academy of Veterinary Medicine, 2016. - 35 p. - URL: https://search.spbguvm.informsystema.ru/viewer.jsp?aWQ9ODYmcHM9MzY = (date of access: 06/24/2025). - Access mode: for authorized users of the SPbGUVM EB.

6.2. Literature for self-work

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

2. Non-contagious Diseases of Dogs and Cats / A. V. Lebedev, S. V. Starchenkov, S. N. Khokhrin, and G. G. Shcherbakov. - 2nd edition, revised and expanded. - St. Petersburg: GIORD, 2000. - 294 p. : ill.

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

7.1. Basic literature

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

2. Workshop on Internal Diseases of Animals / edited by G. G. Shcherbakov and A. V. Korobov. - St. Petersburg: Lan, 2003. - 544 p.: ill. - (Textbooks for Universities. Special Literature).

3. Guide to Practical Classes on Internal Non-Contagious Diseases / A. V. Yashin, G. G. Shcherbakov, N. A. Kochueva [et al.] ; under the general editorship of A. V. Yashin; Ministry of Agriculture of the Russian Federation. - Saint Petersburg: Special Literature, 2017. - 108 p. – URL: https://search.spbguvm.informsystema.ru/viewer.jsp?aWQ9NDAyJnBzPTEwOA = (date of access: 06/24/2025). - Access mode: for authorization. EB SPbGUVM users.

7.2. Additional literature

1. Non-contagious Pathology of Cattle in Farms with Industrial Technology: A Textbook / A. V. Yashin, G. G. Shcherbakov, I. I. Kalyuzhny, [et al.] ; edited by A. V. Yashin. - St. Petersburg: Lan, 2022. - 220 p. : ill. – URL:https://search.spbguvm.informsystema.ru/viewer.jsp?aWQ9MTk0MzAmcHM9MjIw (date of access: 06/24/2025). - Access mode: for authorization. EB SPbGUVM users

2. Usha, B.V. Clinical diagnostics of internal non-infectious animal diseases / B.V. Usha, I.M. Belyakov, R.P. Pushkarev. - 2nd ed., ster. - St. Petersburg : Quadro, 2022. - 504 p. – URL: https://elibrica.com/c4b67050-49dd-4e11-b320-5bb055acabb1 (date of access: 06/24/2025). - Access mode: for authorization. EB SPbGUVM users.

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. ELS "SPBGUVM"
2. University information system "RUSSIA"
3. Scientific electronic Library ELIBRARY.RU
4. Russian Scientific Network
5. Scopus database of International Science Citation Indexes
6. Full-text interdisciplinary database on agricultural and environmental sciences ProQuest AGRICULTURAL AND ENVIRONMENTAL SCIENCE DATABASE
7. Collection "Agriculture. Veterinary medicine" publishing house "Quadro" ELS "Elibris" publishing house "Quadro" https://elibrica.com/

9. METHODOLOGICAL GUIDELINES FOR STUDENTS ON EDUCATION OF THE DISCIPLINE

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

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

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

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

• Recommendations for working with literature.

Working with literature is an important stage of the student's independent work on mastering the subject, contributing not only to the consolidation of knowledge, but also to the expansion of horizons, mental abilities, memory, the ability to think, express and confirm their hypotheses and ideas. In addition, the skills of research work necessary for further professional activity are being developed.

When starting to study the literature on the topic, it is necessary to make notes, extracts, notes. It is mandatory to take notes of the works of theorists, which allow us to comprehend the theoretical basis of the study. For the rest, you can limit yourself to extracts from the studied

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

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

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

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

According to the guidelines provided in the list of guidelines.

10. EDUCATIONAL WORK

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

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

11.1 Information technologies

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

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

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

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

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

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

		urine, feces according to the methods, simulators for practicing manipulations	

Developers:

Associate Professor of the Department of Internal Animal Diseases — Golodyaeva M.S.

Associate Professor of the Department of Internal Animal Diseases — Katargin R.S.

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

Annex 1

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

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

FUND OF ASSESMENT TOOLS
for the discipline
" INTERNAL NON-COMMUNICABLE DISEASES "

Level of higher education
SPECIALIST COURSE

Specialty 36.05.01 Veterinary medicine
Profile: «General clinical veterinary medicine»
Full-time education

Education starts in 2025

Saint Petersburg
2025

1. PASSPORT OF THE FUND OF ASSESMENT TOOLS

Index	Content
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
GPC-2	Is able to interpret and evaluate in professional activity the influence of natural, socio-economic, genetic and economic factors on the physiological status of the animal body
GPC-2 ID -1	To know: ecology factors of the environment, its classification and the nature of relationships with living organisms; basic ecological concepts; interspecific relations of animals and plants, terms and bio ecology laws, parasites and hosts; ecological features of some types of pathogenic microorganisms; mechanisms of influence of anthropogenic and economic factors on the animal body
GPC-2 ID -2	To be able to: use environmental factors and environmental laws in agricultural manufacture; apply the achievements of modern microbiology and ecology of microorganisms in animal husbandry and veterinary medicine in order to prevent infectious and invasive diseases and treat animals; use environmental monitoring methods in the environmental assessment of agricultural facilities and the production of agricultural products; assess the impact on the animal body, anthropogenic and economic factors
PC-3	To set the diagnose based on the analysis of anamnesis, general, special (instrumental) and laboratory research methods
PC-3 ID -1	To possess skills to make a diagnosis in accordance with generally accepted criteria and classifications, lists of animal diseases
PC-3 ID -2	To possess skills to use specialized information databases for the diagnosis of animal diseases
PC-3 ID -3	To possess skills to document the results of clinical animal studies, using digital technologies
PC-3 ID -4	/To know the methods of interpretation and data analysis of special (instrumental) methods of animal examination
PC-3 ID -5	To know the norms of indicators of the status of animals' biological material of different species and the reasons that cause deviations from the norms
PC-3 ID -6	To know the etiology and pathogenesis of animal diseases of various species
PC-3 ID -7	To know the generally accepted criteria and classifications of animal diseases, approved lists of animals disease
PC-5	To carry out plan of animal treatment, based on the stated diagnosis and animals individual character ristics, signature of necessary remedies of chemical and biological nature for the treatment, taking into account combination of its pharmacological effect on the animal body
PC-5	To be able to use specialized information databases at a choice of animal treatment methods

ID -1	
PC-5 ID -2	To be able to calculate the amount of remedies for the treatment of animals and the prevention of diseases with the receipts signature for a certain period
PC-5 ID -3	To be able to calculate the amount of remedies for the treatment of animals and for the prevention of diseases with the receipts signature for a certain period, using digital technologies as well
PC-5 ID -4	To be able to administer drugs to the animals body in various techniques
PC-5 ID -5	To know the methods of pharmacological treatment of sick animals and indications for its administration, in accordance with the guidelines, instructions, manuals, rules of diagnosis, prevention and treatment
PC-5 ID -8	To know the ways of drug injections, used both for animals enteral (oral, sublingual and rectal administration) and parenteral (injections, inhalations and skin applications) methods
PC-6	The selection of the variety of methods of non-drug therapy, including physiotherapy methods for the treatment of animals, carry out therapeutic, including physiotherapy procedures using special equipment in compliance with safety rules
PC-6 ID -1	To be able to use special, both digital therapeutic equipment and physiotherapy procedures, in accordance with its instructions
PC-6 ID -2	To be able to fix animals to ensure safety during medical procedures
PC-6 ID -3	To be able to maintain patients documentation on diseases and treatment of animals, using digital technologies
PC-6 ID -4	To know the types of non-drug therapy, including physiotherapy, used in veterinary medicine, and the clinical signs for its use
PC-6 ID -6	To know the safety rules of manipulation with special equipment during non-drug instrumentation for the animals
PC-6 ID-7	To know the methods and techniques of non-drug manipulations for the animal
PC-6 ID -8	To know forms and rules for filling out the journal for the registration of sick animals and the animal's medical history in accordance with the requirements of veterinary legislation, in digital format as well
PC-10	Application of follow-up examinations and studies of animals to assess the effectiveness and safety of the prescribed treatment, detalisation of the animal treatment plan (if necessary) based on the results of the evaluation of the treatment effectiveness
PC-10 ID -1	To be able to evaluate the effectiveness of treatment
PC-10 ID -2	To be able to use specialized information databases when choosing ways for treat animal diseases
PC-10 ID -3	To know the methods of drug treatment of sick animals and indications for its use in accordance with the guidelines, instructions, manuals, rules of diagnosis, prevention and treatment of animals
PC-15	Management of organizational, technical, zootechnical and veterinary measures for the prevention of non-contagiouse diseases in accordance with

	the preventive plan, analysis of the effectiveness of measures for the prevention of animal diseases for its improvement
PC-15 ID -1	To be able to assess the impact of animal welfare and feeding conditions on its health as part of the implementation of action plans for the prevention of animal diseases using digital technologies
PC-15 ID -2	To be able to evaluate the effectiveness of preventive measures and ways to implement them, using digital technologies as well
PC-15 ID -4	To be able to perform diagnostic examination of animals within the framework of medical examination for early detection of disease preclinical and clinical signs
PC-15 ID -5	To know the types of measures for the prevention of non-contagious animal diseases and metabolic disorders in animals and the requirements for its implementation, in accordance with methodological guidelines, instructions, manuals, rules for the diagnosis, prevention and treatment of animals
PC-17	Drawing up a plan for the medical examination of animals, taking into account its husbandry type, veteri nary examinations in order to preserve the health of animals and increase its productivity, development of recommendations for preventive and treatment measures, based on the results of animal study, conducted as part of the veterinary examination
PC-17 ID -1	To be able to perform diagnostic examination of animals within the framework of veterinary study with the use of digital equipment, for early detection of preclinical and clinical signs of the disease
PC-17 ID -2	To know the methodology of veterinary examination of animals in accordance with the actual methodological guidelines
PC-17 ID -3	To know the types of preventive measures of non-contagious animal diseases and metabolic disorders and the requirements for its implementation in accordance with methodological guidelines, instructions, manuals, rules for the diagnosis, prevention and treatment of animals

List of assessment tools

№	Name of the assessment tool	Brief description of the assesment tool	Presentation of the assessment tool in the fund
1.	Colloquium	A means of controlling the assimilation of educational material of a topic, section or sections of a discipline, organized as an educational activity in the form of an interview between a teacher and students	Questions on topics/sections 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.	Course paper	A means of testing the ability to apply the acquired knowledge in practice	Topics of reports
4.	Control work	A means of testing the ability to apply acquired knowledge to solve problems of a certain type on a topic or section	A set of response scales
5.	Situational tasks	A means of testing students' ability to apply accumulated knowledge logically	Task Fund
6.	Test	Tool controls the learning material for the semester	Questions on topics/sections of the discipline
7.	Exam	Tool controls the absorbed learning material per year	Questions on topics/sections of the discipline

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

Planned results of competence development	The level of development				Evaluation tool
	Unsatisfactory	satisfactory	good	excellent	
• **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.	The level of knowledge is below the minimum requirements, gross errors have occurred	The minimum acceptable level of knowledge, many blunders have been made	The level of knowledge in the volume corresponding to the training program, several blunders were made	The level of knowledge in the volume corresponding to the training program, without errors	Colloquium, tests, situational tasks
• **GPC-2. Is able to interpret and evaluate in professional activity the influence of natural, socio-economic, genetic and economic factors on the physiological status of the animal body**					
GPC-2 ID-1 **To know:** ecology factors of the environment, its classification and the	Basic skills were not demonstrated when solving standard	Basic skills have been demonstrate, typical tasks with minor	All the basic skills have been demonstrate, all the main	All basic skills have been demonstrate, all basic	Colloquium, tests, control work

nature of relationships with living organisms; basic ecological concepts; interspecific relations of animals and plants, terms and bio ecology laws, parasites and hosts; ecological features of some types of pathogenic microorganisms; mechanisms of influence of anthropogenic and economic factors on the animal body. GPC-2 ID-2 **To be able to**: use environmental factors and environmental laws in agricultural manufacture; apply the achievements of modern microbiology and ecology of microorganisms in animal husbandry and veterinary medicine in order to prevent infectious and invasive diseases and treat animals; use environmental monitoring methods in the environmental assessment of agricultural facilities and the production of agricultural products; assess the impact on the animal body, anthropogenic and economic factors	tasks, and gross errors occurred	errors have been solved, all tasks have been completed, but not in full	tasks with minor errors have been solved, all the tasks have been completed in full, but some with flaws	tasks have been solved with some minor flaws, and all tasks have been completed in full	
• **PC-3. To set the diagnose based on the analysis of anamnesis, general, special (instrumental) and laboratory research methods**					
PC-3 ID-1 **To possess skills to** make a diagnosis in accordance with generally accepted	Basic skills were not demonstrated when solving standard	Basic skills have been demonstrate, typical tasks with minor	All the basic skills have been demonstrate, all the main	All basic skills have been demonstrate, all basic	Colloqu ium, tests, control work

criteria and classifications, lists of animal diseases. **PC-3 ID-2** **To possess skills to** use specialized information databases for the diagnosis of animal diseases **PC-3 ID-3** **To possess skills to** document the results of clinical animal studies, using digital technologies. **PC-3 ID-4** **To know** the methods of interpretation and data analysis of special (instrumental) methods of animal examination. **PC-3 ID-5** **To know** the norms of indicators of the status of animals' biological material of different species and the reasons that cause deviations from the norms. **PC-3 ID-6** **To know** the etiology and pathogenesis of animal diseases of various species. **PC-3 ID-7** **To know** the generally accepted criteria and classifications of animal diseases, approved lists of animals disease.	tasks, and gross errors occurred	errors have been solved, all tasks have been completed, but not in full	tasks with minor errors have been solved, all the tasks have been completed in full, but some with flaws	tasks have been solved with some minor flaws, and all tasks have been completed in full	
• **PC-5. To carry out plan of animal treatment, based on the stated diagnosis and animals individual character ristics, signature of necessary remedies of chemical and biological nature for the treatment, taking into account combination of its pharmacological effect on the animal body**					
PC-5 ID-1 To be able to use specialized	Basic skills were not demonstrated	Basic skills have been demonstrate,	All the basic skills have been	All basic skills have been	Colloqu ium, tests,

information databases at a choice of animal treatment methods. **PC-5 ID-2** To be able to calculate the amount of remedies for the treatment of animals and the prevention of diseases with the receipts signature for a certain period. **PC-5 ID-3** To be able to calculate the amount of remedies for the treatment of animals and for the prevention of diseases with the receipts signature for a certain period, using digital technologies as well. **PC-5 ID-4** To be able to administer drugs to the animals body in various techniques. **PC-5 ID-5** To know the methods of pharmacological treatment of sick animals and indications for its administration, in accordance with the guidelines, instructions, manuals, rules of diagnosis, prevention and treatment. **PC-5 ID-8** To know the ways of drug injections, used both for animals enteral (oral, sublingual and rectal administration) and parenteral (injections, inhalations and skin applications) methods	when solving standard tasks, and gross errors occurred	typical tasks with minor errors have been solved, all tasks have been completed, but not in full	demonstrate, all the main tasks with minor errors have been solved, all the tasks have been completed in full, but some with flaws	demonstrate, all basic tasks have been solved with some minor flaws, and all tasks have been completed in full	control work

• **PC-6. The selection of the variety of methods of non-drug therapy, including physiotherapy methods for the treatment of animals, carry out therapeutic, including physiotherapy procedures using special equipment in compliance with safety rules**					
PC-6 ID-1 To be able to use special, both digital therapeutic equipment and physiotherapy procedures, in accordance with its instructions **PC-6 ID-2** To be able to fix animals to ensure safety during medical procedures **PC-6 ID-3** To be able to maintain patients documentation on diseases and treatment of animals, using digital technologies **PC-6 ID-4** To know the types of non-drug therapy, including physiotherapy, used in veterinary medicine, and the clinical signs for its use **PC-6 ID-6** To know the methods and techniques of non-drug manipulations for the animal. ПК-6 ид-7 Знать методы фиксации животных при проведении их лечения **PC-6 ID-7** To know the methods of animals fixation during treatment. **PC-6 ID-8** To know forms and rules for filling out	Basic skills were not demonstrated when solving standard tasks, and gross errors occurred	Basic skills have been demonstrate, typical tasks with minor errors have been solved, all tasks have been completed, but not in full	All the basic skills have been demonstrate, all the main tasks with minor errors have been solved, all the tasks have been completed in full, but some with flaws	All basic skills have been demonstrate, all basic tasks have been solved with some minor flaws, and all tasks have been completed in full	Colloquium, tests, control work

the journal for the registration of sick animals and the animal's medical history in accordance with the requirements of veterinary legislation, in digital format as well.					
• **PC-10. Application of follow-up examinations and studies of animals to assess the effectiveness and safety of the prescribed treatment, detalisation of the animal treatment plan (if necessary) based on the results of the evaluation of the treatment effectiveness**					
PC-10 ID-1 To be able to evaluate the effectiveness of treatment **PC-10 ID-2** To be able to use specialized information databases when choosing ways for treat animal diseases **PC-10 ID-3** To know the methods of drug treatment of sick animals and indications for its use in accordance with the guidelines, instructions, manuals, rules of diagnosis, prevention and treatment of animals	Basic skills were not demonstrated when solving standard tasks, and gross errors occurred	Basic skills have been demonstrate, typical tasks with minor errors have been solved, all tasks have been completed, but not in full	All the basic skills have been demonstrate, all the main tasks with minor errors have been solved, all the tasks have been completed in full, but some with flaws	All basic skills have been demonstrate, all basic tasks have been solved with some minor flaws, and all tasks have been completed in full	Colloquium, tests, control work
• **PC-15. Management of organizational, technical, zootechnical and veterinary measures for the prevention of non-contagiouse diseases in accordance with the preventive plan, analysis of the effectiveness of measures for the prevention of animal diseases for its improvement**					
PC-15 ID-1 **To be able** to assess the impact of animal welfare and feeding conditions on its health as part of the implementation of action plans for the prevention of animal diseases using digital technologies	Basic skills were not demonstrated when solving standard tasks, and gross errors occurred	Basic skills have been demonstrate, typical tasks with minor errors have been solved, all tasks have been completed, but not in full	All the basic skills have been demonstrate, all the main tasks with minor errors have been solved, all the tasks have been	All basic skills have been demonstrate, all basic tasks have been solved with some minor flaws, and all tasks have been	Colloquium, tests, control work

PC-15 ID-2 **To be able to** evaluate the effectiveness of preventive measures and ways to implement them, using digital technologies as well. **PC-15 ID-4** **To be able to** perform diagnostic examination of animals within the framework of medical examination for early detection of disease preclinical and clinical signs. **PC-15 ID-5** **To know** the types of measures for the prevention of non-contagious animal diseases and metabolic disorders in animals and the requirements for its implementation, in accordance with methodological guidelines, instructions, manuals, rules for the diagnosis, prevention and treatment of animals			completed in full, but some with flaws	completed in full	
• **PC-17. Drawing up a plan for the medical examination of animals, taking into account its husbandry type, veteri nary examinations in order to preserve the health of animals and increase its productivity, development of recommendations for preventive and treatment measures, based on the results of animal study, conducted as part of the veterinary examination**					
PC-17 ID-1 **To be able to** perform diagnostic examination of animals within the framework of veterinary study with the use of digital equipment, for early	Basic skills were not demonstrated when solving standard tasks, and gross errors occurred	Basic skills have been demonstrate, typical tasks with minor errors have been solved, all tasks have been	All the basic skills have been demonstrate, all the main tasks with minor errors have been solved,	All basic skills have been demonstrate, all basic tasks have been solved with some minor flaws,	Colloqu ium, tests, control work

detection of preclinical and clinical signs of the disease **PC-17 ID-2** **To know** the methodology of veterinary examination of animals in accordance with the actual methodological guidelines **PC-17 ID-3** **To know** the types of preventive measures of non-contagious animal diseases and metabolic disorders and the requirements for its implementation in accordance with methodological guidelines, instructions, manuals, rules for the diagnosis, prevention and treatment of animals		completed, but not in full	all the tasks have been completed in full, but some with flaws	and all tasks have been completed in full	

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

3.1.1. COLLOQUIUM

The competence being formed: GPC-1 (GPC-1 ID-1, GPC-1 ID-2, GPC-1 ID-3) – Is able to determine the biological status, normal clinical signs of organs and systems of the animal body.

1. Rules for working with animals;
2. Methods of fixation of animals;
3. Safety precautions when working with animals;
4. Methods of clinical animal research;
5. Personal hygiene when working with sick animals.

The competence being formed: GPC-2 (GPC-2 ID-1, GPC-2 ID-2) – Is able to interpret and evaluate in professional activity the influence of natural, socio-economic, genetic and economic factors on the physiological status of the animal body.

1. What is the scheme of animal research;
2. What is the clinical significance of the anamnesis;
3. The importance of dietary and herbal medicine;
4. Inhalation techniques for large and small pets;
5. Socio-economic and natural factors affecting the physiological state of the body;
6. Genetic and economic factors affecting the physiological state of the body.

The competence being formed: PC-3 (PC-3 ID-1, PC-3 ID-2, PC-3, ID-3, PC-3 ID-4, PC-3 ID-5, PC-3 ID-6, PC-3 ID-7) – To set the diagnose based on the analysis of anamnesis, general, special (instrumental) and laboratory research methods.

1. Principles of veterinary therapy;
2. Means and methods of veterinary therapy;
3. How to make a diagnosis;
4. Diagnosis of diseases of the digestive system.

The competence being formed: PC-5 (PC-5 ID-1, PC-5 ID-2, PC-5 ID-3, PC-5 ID-4, PC-5 ID-5, PC-5 ID-8) – To carry out plan of animal treatment, based on the stated diagnosis and animals individual character ristics, signature of necessary remedies of chemical and biological nature for the treatment, taking into account combination of its pharmacological effect on the animal body.

1. The technique of introducing gastric probes to farm animals;
2. Introduction of medicines into the respiratory tract and digestive canal;
3. Novocaine therapy;
4. Expectorant drugs;
5. Laxatives;
6. Rumination products;
7. Medicines for diseases of the digestive system;
8. Medicines for diseases of the respiratory system;
9. Medications for diseases of the urinary system;
10. Medicines for diseases of the cardiovascular system;
11. Medicines for diseases of the nervous system;
12. Medications for metabolic diseases.

The competence being formed: PC-6 (PC-6 ID-1, PC-6 ID-2, PC-6 ID-3, PC-6 ID-4, PC-6 ID-6, PC-6 ID-7, PC-6 ID-8) – The selection of the variety of methods of non-drug therapy, including physiotherapy methods for the treatment of animals, carry out therapeutic, including physiotherapy procedures using special equipment in compliance with safety rules.

1. Preventive and curative measures in specialized livestock farms (LPH, KFH, SEC, etc.);

2. Physioprophylaxis and physiotherapy for internal non-communicable diseases;

3. Phototherapy;

4. Electrotherapy;

5. Fixation of animals for non-drug therapy.

The competence being formed: PC-10 (PC-10 ID-1, PC-10 ID-2, PC-10 ID-3) – Application of follow-up examinations and studies of animals to assess the effectiveness and safety of the prescribed treatment, detalisation of the animal treatment plan (if necessary) based on the results of the evaluation of the treatment effectiveness.

1. Making a preliminary and final diagnosis for internal non-infectious animal diseases;

2. Additional and special animal studies;

3. The importance of laboratory methods in the diagnosis of internal non-communicable diseases.

The competence being formed: PC-15 (PC-15 ID-1, PC-15 ID-2, PC-15 ID-4, PC-15 ID-5) – Management of organizational, technical, zootechnical and veterinary measures for the prevention of non-contagiouse diseases in accordance with the preventive plan, analysis of the effectiveness of measures for the prevention of animal diseases for its improvement.

1. Preventive measures for diseases of the digestive system;

2. Preventive measures for diseases of the respiratory system;

3. Preventive measures for diseases of the urinary system;

4. Preventive measures for diseases of the cardiovascular system;

5. Preventive measures for diseases of the nervous system;

6. Preventive measures for metabolic diseases.

The competence being formed: PC-17 (PC-17 ID-1, PC-17 ID-2, PC-17 ID-3) – Drawing up a plan for the medical examination of animals, taking into account its husbandry type, veteri nary examinations in order to preserve the health of animals and increase its productivity, development of recommendations for preventive and treatment measures, based on the results of animal study, conducted as part of the veterinary examination.

1. The methodology of medical examination;

2. Goals and stages of medical examination;

3. Analysis of animal maintenance and feeding.

3.1.2. TEST QUESTIONS

DISCIPLINES "INTERNAL NON-COMMUNICABLE DISEASES": GPC-1 CLOSED TYPE TASKS

Combined-type tasks: choosing one correct answer from the options provided

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 including using digital technologies; methodology for identifying a pathological process.

Task 1.

Read the text and choose the correct answer.

Medical care must be carried out in compliance with the rules of asepsis and antisepsis. Asepsis is:

1. A system of measures aimed at destroying microorganisms in the wound;

2. A system of measures aimed at preventing microorganisms from entering the wound;3. A system of measures aimed at cleaning the wound with disinfectant solutions;

4. A system of measures aimed at the complete recovery of animals.

The correct answer: 2.

Task 2.

Read the text and choose the correct answer.

Replacement therapy is aimed at replenishing missing components in the body. Replacement therapy includes:

1. Hormonal therapy;
2. Novocaine blockades;
3. Sulfur therapy;
4. Antibiotic therapy.

The correct answer: 1.

Task 3.

Read the text and choose the correct answer.

Pathogenetic therapy is aimed at eliminating the mechanism of disease development by stimulating the body's defenses. Therapy in which tissues lysed by acids and alkalis are used for therapeutic purposes is:

1. Tissue therapy;
2. Lysate therapy;
3. Cytotoxin therapy;
4. Symptomatic therapy.

The correct answer: 2.

Task 4.

Read the text and choose the correct answer.

Fixation of animals is a restriction of their mobility.

To fix horses …can be used:

1. Collar;
2. Muzzle;
3. Halter;
4. Fasciation belt with ring according to K.P. Sokolov.

The correct answer: 3.

Tasks of a combined type: choosing several correct answers from the options provided

Task 5.

Read the text and select all the correct options.

For the correct organization of medical, preventive or diagnostic manipulations with animals, it is necessary to create conditions under which the possibility of animals and people performing these actions receiving any injuries or damages should be completely excluded. Safety precautions when working with animals include (indicate three correct answers in ascending order):

1. Restraining animals;
2. Studying the etiology of the animal's disease;
3. Special clothing;
4. Compliance with the rules of asepsis and antisepsis;
5. Preventing medical examination at working place.

The correct answer: 1,3,4.

Task 6.

Read the text and choose all the correct answers.

Intravenous infusion or drip infusion (intravenous infusion) is the process of introducing liquids, drugs or preparations/blood components into a venous vessel.

Vessels for intravenous administration of solutions to large animals include (indicate two correct answers in ascending order):

1. Jugular vein;
2. Subcutaneous vein;
3. Great auricular vein;
4. Milk vein.

The correct answer: 1,4.

Task 7.

Read the text and choose all the correct answers.

Palpation is a physical diagnostic method performed by feeling the patient's body.

Types of deep palpation include (indicate three correct answers in ascending order): 1. Tapping;

2. Bimanual palpation;
3. Penetrating;
4. Pushing;
5. Sliding.

The correct answer: 2,3,4.

Task 8.

Read the text and choose all the correct answers.

Percussion is a physical diagnostic method that involves tapping certain areas of the body and analyzing the sounds that occur.

According to the technique of execution, percussion is divided into (indicate two correct answers in ascending order):

1. Direct;
2. Indirect;
3. Wrist;
4. Medial;
5. Brachial.

The correct answer: 1,4.

Closed type tasks to establish compliance

Task 9.

Read the text and establish a match.

Measurement of body temperature is a mandatory method of clinical examination. Animal body temperature is measured in the rectum with a thermometer, which is stored in a container with a disinfectant solution. The lower part of the thermometer is lubricated with Vaseline. Stubborn animals are first fixed. Each animal species has its own reference values for body temperature fluctuations.

For each position given in the left column, select the corresponding position from the right column:

Type of animal		**Body temperature, ^{0}C**	
A.	Cattle	1.	37,5-38,5
B.	Horse	2.	37,5-39,0
C.	Pig	3.	37,5-39,5
D.	Poultry	4.	38,0-40,0
E.	Dog	5.	40,0-42,0
F.	Cat	6.	38,0-39,5

Write the selected numbers under the corresponding letters:

A	B	C	D	E	F

Key: A-3 ,B-1,C-4,D-5,E-2,F-6.

GPC-1 ID-2 To be able to collect and analyze anamnestic data, conduct laboratory and functional studies using digital computer technologies necessary to determine the biological status of animals.

Task 10.

Read the text and establish a match.

Measuring the pulse of animals during a medical examination helps to monitor their health. This indicator reflects the frequency and rhythm of the heartbeat, as well as the strength of the heart muscle impulses. Each animal species has its own reference values for heart rate fluctuations.

For each position given in the left column, select the corresponding position from the right column:

Type of animal		**Pulse (beats/min.)**	
A.	Cattle	1.	60-90
B.	Horse	2.	24-42
C.	Pig	3.	50-80
D.	Poultry	4.	150-200

Write the selected numbers under the corresponding letters:

A	B	C	D	E	F

Key: A-3,B-2, C-1, D-4.

Task 11.

Read the text and establish a correspondence.

During medical examination for monitoring the animal's condition, the measuring of the animals' breathing movements for one minute is conducted. Each animal has its own reference values for cyclic movement oscillations.

For each position given in a separate column, select the corresponding position from the right column:

Type of animal		**Breathing (breaths/min.)**	
A.	Cattle	1.	15-20
B.	Horse	2.	15-30
C.	Pig	3.	8-16
D.	Poultry	4.	10-30

Write the selected numbers under the corresponding letters:

A	B	C	D

Key: A-4, B-3, C-1, D-2.

Task 12.

Read the text and establish a match.

A feature of the anatomical structure of the digestive system of ruminants is the presence of a multi-chamber stomach. The main diseases of the forestomachs of polygastric animals are associated with violations of the rules and regimen of feeding, maintenance and exercise of animals, uncontrolled use of drugs and additives, pathologies of the nervous system, previous infectious diseases, and also under severe stress. Rumen motility disorders are often caused by its overfilling, poor-quality feed, non-compliance with dietary standards, and the development of pathogenic microflora.

For each position given in the left column, select the corresponding position from the right column:

Disease		Definition	
A.	Rumen acidosis	1.	This is a swelling of the rumen, characterized by the accumulation of a large amount of gases mainly in the rumen.
B.	Rumen alkalosis	2.	This is a disorder of motor activity of the rumen, reticulum, amasum
C.	Dystonia of forestomaches	3.	This is a disease that is characterized by acidification of the rumen, disruption of metabolic processes and digestion.
D.	Rumen tympany	4.	This is a disease that is characterized by alkalization of the rumen, disruption of metabolic processes and digestion.

Write the selected numbers under the corresponding letters:

A	B	C	D

Key: A-3,B-4,C-2, D-1.

Closed type tasks to establish a sequence

Task 13

Read the text and establish the sequence.

Clinical examination of an animal is the foundation on which the work of a veterinary specialist begins. During an appointment, it is necessary to examine sick animals according to a certain plan.

Write down the numbers that indicate the stages of clinical examination of animals in the correct sequence.

1. General clinical examination of the animal;
2. Collection of anamnesis;
3. Registration of the sick animal;
4. Special study by systems;
5. Additional studies (functional, laboratory diagnostics, etc.).

Answer: 3,2,1,4,5.

Task 14

Read the text and establish the sequence.

At the initial appointment, to determine the causes of the disease, the veterinarian firstly collects anamnesis and performs a physical examination of the patient.

Write down the correct sequence in which the animal is examined at the veterinarian's appointment.

1. Measuring the animal's body weight;
2. Measuring body temperature;
3. Assessing the condition of the lymph nodes;
4. Assessing skin turgor.

Answer: 1,2,4,3.

GPC-1 ID-3 To possess practical skills for independently conducting clinical research on animals using classical research methods and digital technologies.

Task 15

Read the text and establish the sequence.

The thyroid gland synthesizes thyroid hormones – thyroxine (T4), triiodothyronine (T3) and the hormone calcitonin. A characteristic feature of thyroid cells is their ability to absorb

iodine, which comes from the intestine in the form of iodides. Among thyroid diseases, the most common are the increased and decreased secretion of thyroid hormones. Increase is accompanied by the development of diffuse toxic goiter and thyrotoxicosis syndrome (hyperthyroidism), decrease in their formation – the development of hypothyroidism and endemic goiter.

Write down the numbers that indicate the stages of diagnostics of endemic thyroid diseases in animals in the correct order.

1. Conducting an ultrasound examination;
2. Clinical examination of the thyroid gland;
3. Determination of the hormone T3;
4. Determination of T4.

Answer: 2,1,3,4.

Task 16

Read the text and establish the sequence.

Cattle often suffer from rumen tympany. The cause of the disease is violations in the feeding of cows. The disease is characterized by increased gas formation and further accumulation of gases in the anterior part of the stomach. The cow was diagnosed with rumen tympany. Write down the numbers that correspond to the stages of treatment of this disease, in the correct sequence.

1. Rumen puncture;
2. Rumen massage in the left hunger pit;
3. Insertion of an oral-gastric tube;
4. Administration of antifoaming and ruminative drugs.

Answer: 2,3,4,1.

OPEN TYPE TASKS

Task 17.

Read the text and write a detailed, reasoned answer.

Animal research should be conducted according to a specific plan: preliminary acquaintance with the animal, the actual study of the animal, additional research.

Write a detailed answer about what is considered preliminary acquaintance with the animal.

Answer: Registration of a sick animal, collection of anamnesis of life and illness.

Task 18.

Read the text and write a detailed, reasoned answer.

Animal research should be conducted according to a specific plan: preliminary acquaintance with the animal, the actual research of the animal, additional research.

Write a detailed answer about what is referred to as a general study of the animal.

Answer: Determination of habitus, examination of the fur and skin, examination of the mucous membranes, examination of lymph nodes, measurement of physiological norms – temperature, pulse and respiration.

Task 19.

Read the text and write a detailed, reasoned answer.

Animal research should be conducted according to a specific plan: preliminary acquaintance with the animal, the actual study of the animal, additional research.

Write a detailed answer about what is considered additional (special) research.

Answer: Laboratory (hematology, serology, allergology, etc.) and functional diagnostics (ultrasound, X-ray, CT, MRI, etc.).

Task 20.

Read the text and write a detailed, reasoned answer.

Special methods are used to study the condition of animals: inspection, percussion, palpation and auscultation.

Write a detailed, reasoned answer to the definition of such a research method as percussion.

Answer: Percussion is a diagnostic (research) method that consists of tapping individual parts of the body and analyzing the sounds that occur.

DISCIPLINES "INTERNAL NON-COMMUNICABLE DISEASES": GPC-2
CLOSED TYPE TASKS
Combined-type tasks: choosing one correct answer from the options provided

GPC-2 ID-1 To know the ecological factors of the environment, their classification and the nature of the relationship with living organisms; basic ecological concepts, terms and laws of bioecology; interspecies relationships of animals and plants, predator and prey, parasites and hosts; ecological characteristics of some types of pathogenic microorganisms; mechanisms of influence of anthropogenic and economic factors on the body of animals.

Task 1.

Read the text and choose the correct answer.

The impact of the environment on the animal's body is varied and depends on various factors. The combination of unfavorable environmental factors leads to the accumulation of potentially dangerous substances in the air, soil and feed, which, when entering the body of farm animals, cause various pathologies.

The set of environmental elements that affect the body is:

1. Abiotic factors;
2. Biotic factors;
3. Anthropogenic factors;
4. Ecological factors.

Answer: 4.

Task 2.

Read the text and choose the correct answer.

All organisms on our planet, without exception, live in close contact with their environment. They not only change under its influence, but also influence the world around them. The components of the environment that are important for the life of an organism and that it inevitably encounters are called environmental factors.

In turn, they include biotic, abiotic and anthropogenic factors.

Inanimate factors that affect the body are called:

1. Abiotic;
2. Biotic;
3. Anthropogenic;
4. Biochemical.

Answer: 1.

Task 3.

Read the text and choose the correct answer.

In the overwhelming majority of cases, human impact on the environment is negative. The impact of humans and their economic activities on living organisms and nature in general is called:

1. Abiotic factors;
2. Biotic factors;
3. Anthropogenic factors;
4. Physiological factors.

Answer: 3.

Task 4

Read the text and choose the correct answer.

Numerous organisms have adapted to parasitism in body cavities, organs, tissues and on the skin of animals and people – viruses, bacteria, rickettsia, chlamydia, fungi, protozoa, helminths, ticks and insects, which enter into complex relationships and circulate in nature between their hosts and the external environment.

The trophic effect of the parasite on the host is manifested in:

1. In the violation of the integrity of the host's skin;
2. In the sensitization of the host's organism;
3. In the absorption of nutrients from the host's organism;
4. In the opening of paths for secondary infection.

Answer: 3.

Tasks of a combined type: choosing several correct answers from the options provided

Task 5.

Read the text and choose the correct answers.

Anthropogenic factors are a set of forms of human activity that affect the natural environment, changing living conditions, or directly affect living organisms.

Anthropogenic factors that negatively affect the organism of animals (indicate three correct answers in ascending order):

1. Massive deforestation;
2. Sunlight;
3. Fertilizing fields with pesticides;
4. Drying out of swamps;
5. Air temperature.

Answer: 1,3,4.

Task 6.

Read the text and choose the correct answers.

Organophosphorus compounds (OPCs) are used in agriculture as insecticides, acaricides and fumigants to control plant pests, blood-sucking insects and other animal parasites.

Routes of penetration of organophosphorus preparations into the animal body (indicate three correct answers in ascending order):

1. Hematogenous;
2. Percutaneous;
3. Inhalation;
4. Placental;
5. Oral.

Answer: 2,3,5.

Task 7.

Read the text and choose the correct answers.

Internal non-communicable diseases are observed in all animals and birds in various climatic and ecological zones, causing enormous economic damage.

The damage from internal non-communicable diseases includes (indicate three correct answers in ascending order):

1. Loss of productivity;
2. Dehydration;
3. Decreased reproductive capacity;
4. Lack of exercise;
5. Decreased quality of work.

Answer: 1,3,5.

Task 8.

Read the text and choose the correct answers.

Increased ammonia vapor levels on farms lead to diseases (indicate three correct answers in ascending order):

1. Cardiovascular;
2. Respiratory;
3. Nervous;
4. Gastrointestinal;
5. Sexual.

Answer: 1,2,3.

Closed type tasks to establish compliance

Task 9.

Read the text and establish a correspondence.

Establish a correspondence between environmental factors and their definitions:

Environmental factors		**Definition**	
A.	Abiotic	1	The impact of man and his economic activities on living organisms and nature as a whole
B.	Biotic	2	The whole complex of environmental elements that affect the body
C.	Anthropogenic	3	Factors of living nature that affect the body
D.	Ecological	4	Inanimate factors affecting the body

Write the selected numbers under the corresponding letters:

A	B	C	D

Key: A-4,B-3,C-1,D-2.

Task 10.

Read the text and establish a correspondence.

Measurements of environmental parameters in agriculture are needed to ensure environmental safety and protect the health of animals.

Establish a correspondence between the name of the device for monitoring environmental parameters and the area of its application:

Name of the device		**Area of its application**	
A.	Luxmeter	1	A measuring device, analyzer for determining the qualitative or quantitative composition of gas mixtures
B.	Gas analyzer	2	A measuring device for measuring the temperature of various bodies and environments (air, soil, water, etc.)
C.	Hygrometer	3	A measuring device designed to determine the humidity of air and various gases.
D.	Thermometer	4	Measuring device for determining the level of illumination

Write the selected numbers under the corresponding letters:

A	B	C	D

Key: A-4,B-1,C-3,D-2.

GPC-2 ID-2 To be able to use environmental factors and laws of ecology in agricultural production; apply the achievements of modern microbiology and ecology of microorganisms in animal husbandry and veterinary medicine for the prevention of infectious and invasive diseases and treatment of animals; use environmental monitoring methods in environmental assessment of agricultural facilities and agricultural production, including with the use of digital technologies;

conduct an assessment of the impact of anthropogenic and economic factors on the body of animals.

Task 11.

Read the text and establish a correspondence.

Air is a mechanical mixture of gases. Different components of the air environment can affect the animal's body in different ways.

Establish a correlation between the gas and its effect on the body when it increases in the environment:

Gas		**Action on the body**	
A.	Carbon monoxide	1	It causes excitation of their respiratory center
B.	Carbon dioxide	2	It combines with hemoglobin and turns it into carboxyhemoglobin, which is unable to absorb oxygen during breathing, i.e. oxygen starvation occurs.
C.	Ammonia	3	It causes inflammation of the mucous membranes, oxygen starvation of the body, and in high concentrations – disruption of the nervous system
D.	Hydrogen sulfide	4	It combines with hemoglobin and turns it into alkaline gamagin, which is unable to absorb oxygen during breathing, i.e. oxygen starvation occurs.

Write the selected numbers under the corresponding letters.

A	B	C	D

Key: A-2,B-1,C-4,D-3.

Task 12.

Read the text and establish a complience.

Ecological factors are properties of the environment that determine the state of metabolism of the organism and the biogeocenosis as a whole. By origin, they are biotic, abiotic and anthropogenic.

Establish a correspondence between biotic factors and the impact they have:

Biotic factors		**Impact they have**	
A.	Phytogenic	1	Influence of animals
B.	Mycogenic	2	Influence of microorganisms
C.	Zoogenic	3	Influence of plants
D.	Microbiogenic	4	Influence of fungi

Write the selected numbers under the corresponding letters.

A	B	C	D

Key: A-3,B-4,C-1,D-2.

Closed type tasks to establish a sequence

Task 13.

Read the text and establish the sequence.

Animal reflexes can be innate (unconditioned) and acquired (conditioned).

Unconditioned reflexes are hereditarily transmitted reactions of the body to a stimulus. Conditioned reflexes arise in the course of individual development and accumulation of data by the animal. Conditioned reflexes are formed on the basis of unconditioned ones with the participation of a highly developed brain.

Establish the sequence of processes that occur when a conditioned reflex is formed in a dog. Write down the corresponding sequence of numbers in the correct order.

1. Giving food to the dog;
2. Salivation in response to turning on the light bulb without food;
3. Turning on the light bulb immediately before feeding the dog;
4. Salivation in response to the smell of food in a dog;
5. Repeating the procedure several times.

Answer: 3,1,4,5,2.

Task 14.

Read the text and establish the sequence.

Nitrogen in the atmosphere can have the following effects on biodiversity. Excessive deposition of nitrogen as ammonia is one of the significant stress factors for biodiversity. Loss of biodiversity can cause changes in the food chain and the extinction of some species.

Establish the sequence of stages of the nitrogen cycle in the biosphere, starting with its biological fixation from the atmosphere. Write the corresponding sequence of numbers in the correct order.

1. Penetration of nitrogen-containing metabolic products excreted by animals into the soil;
2. Denitrification and release of free nitrogen in the atmosphere;
3. Eating plants by animals;
4. Use of fixed nitrogen by plants;
5. Conversion of molecular nitrogen by nodule bacteria.

Answer: 5,4,3,1,2.

Task 15.

Read the text and establish the sequence.

Organochlorine compounds (OCCs) are highly resistant to environmental factors (moisture, temperature, solar insolation, etc.).

The first compound to gain widespread use was DDT (dichlorodiphenyltrichloromethane). It was banned from use in 1970 because it was an active pollutant of the environment. Its traces are still found in various regions of the planet. Establish the sequence of stages of the cycle of organochlorine compounds in nature. Write the corresponding sequence of numbers in the correct order.

1. Accumulation of OCCs in fish;
2. Accumulation of OCCs in soil;
3. Treatment of plants with organochlorine compounds;
4. Penetration of OCCs into water.

Answer: 3,2,4,1.

Task 16.

Read the text and establish the sequence.

Poisoning with organophosphorus compounds (OPCs) is one of the most common types of poisoning, the cause of which is the widespread use of these substances in veterinary medicine (for antiparasitic treatment of animals) and agriculture.

Establish the sequence of action of organophosphorus compounds on the body. Write down the corresponding sequence of numbers in the correct order.

1. Blocking the enzyme cholinesterase;
2. Accumulation of organophosphorus compounds in the soil;
3. Manifestation of clinical signs of poisoning;
4. Getting organophosphorus compounds into water.

Answer: 3,2,4,1.

OPEN TYPE TASKS

Task 17.

Read the text and write down a detailed answer.

Piglet alimentary anemia is a disease of suckling piglets caused by a lack of iron in the body, characterized by a disorder of the function of the hematopoietic organs and a metabolic disorder that leads to growth retardation and a decrease in the body's resistance to other diseases.

What area of human activity has contributed to the development of alimentary anemia in piglets?

Answer: Selection.

Task 18.

Read the text and write down a detailed answer.

When giving medications, you need to know: the dose, the concentration of solutions, as well as the compatibility of medications. It is necessary to take into account the state of the body, body weight, type and age of the animal.

What drugs are prohibited for treatment?

Answer: Mercury preparations.

Task 19.

Read the text and write down a detailed answer.

The body's response to environmental conditions is called adaptation. This is the body's ability to adapt to changing environmental factors, the purpose of which is to achieve a stable balance between the environment and the body.

What serves as a signal for the restructuring of processes occurring in the body, which allows them to respond best to changes in external conditions?

Answer: Light.

Task 20.

Read the text and write down a detailed answer.

Environmental factors are diverse, they have different natures and features of action on organisms.

Environmental factors are divided into three groups: abiotic, biotic and anthropogenic

What are the factors of living nature that affect the body called?

Answer: Biotic.

DISCIPLINES "INTERNAL NON-COMMUNICABLE DISEASES": PC-3

CLOSED-TYPE TASKS

Combined type tasks: choosing one correct answer from the options provided

PC-3 ID-1 To be able to make a diagnosis in accordance with generally accepted criteria and classifications, lists of animal diseases.

Task 1

Read the text and choose the correct answer.

Diagnosis of animal diseases is carried out in a comprehensive manner, including on the basis of clinical signs. In clinical examination of animals, when diagnosing diseases of the respiratory system, such a technique as "percussion" is used for the purpose of:

1. Eliminating the cause of the disease;

2. Detecting wheezing, harsh breathing and crepitations;

3. Determining the boundaries of the lungs and to clarify the location and size of the inflammation;

4. Bacterial culture.

Answer: 3.

Task 2.

Read the text and choose the correct answer.

Stomatitis is a general inflammation of the oral mucosa.

Focal lesions that primarily affect the mucous membrane of the gums are called:

1. Glossitis;
2. Gingivitis;
3. Palantinitis
4. Pulpitis.

Answer: 2.

Task 3.

Read the text and choose the correct answer.

Cases of esophageal obstruction by uncrushed fruits and vegetables are recorded in cattle. In this case, probing of the esophagus is performed with an orogastric tube of the following design:

1. V.A. Cherkasov;
2. S.G. Meliksetyan;
3. I.A. Telyatnikov;
4. A.L. Khokhlov.

Answer: 4.

PC-3 ID-2 To be able to use specialized information databases for diagnosing animal diseases.

Task 4.

Read the text and choose the correct answer.

In multi-chambered animals, a relatively rare independent disease is distinguished in the modern classification - inflammation of the mucous membrane and other layers of the abomasum wall with an acute or chronic course. From the Latin language, inflammation of the abomasum is called the term:

1. abomasitis;
2. reticulitis;
3. omasitis;
4. enteritis.

Answer: 1.

Tasks of a combined type with the choice of several correct answers from the suggested options

Task 5.

Read the text and choose the correct answers.

The liver is a parenchymatous organ, the largest gland in the body.

It is located in the anterior part of the abdominal cavity, directly behind the diaphragm, mostly in the right hypochondrium. The liver performs the following functions (indicate three correct answers in ascending order):

1. Synthesis of erythropoietin;
2. Synthesis of albumins;
3. Synthesis of fibrinogen;
4. Synthesis of gonadotropin;
5. Synthesis of bile.

Answer: 2,3,5.

Task 6.

Read the text and choose the correct answers.

Due to the anatomical features, horses are characterized by a number of diseases with colic phenomena. Colic is a complex of symptoms caused by the occurrence of pain in the abdominal or pelvic cavity. One of the most recognized classifications of horse diseases with colic phenomena is according to A. V. Sinev (it is based on the functional principle, i.e. the speed of feed movement through the gastrointestinal tract).

1. Acute gastric dilatation;
2. Enteralgia;
3. Strangulation ileus;
4. Chemostasis;
5. Flatulence.

Answer: 1,2,5.

PC-3 ID-3 To be able to formalize the results of clinical studies of animals using digital technologies

Task 7.

Read the text and choose the correct answers.

One of the syndromes of liver diseases is jaundice. The latter is a symptom complex accompanied by yellowing (jaundice) of the skin and visible mucous membranes.

Depending on the causes, there are mechanical, parenchymatous and hemolytic jaundice.

1. Decrease in the level of red blood cells;
2. Increase in the level of globulins in the blood;
3. Colorless urine;
4. Dark brown urine;
5. Increase in the level of red blood cells in the blood.

Answer: 1,2,4.

Task 8.

Read the text and choose the correct answers.

Among the most common diseases of young animals in industrial production, dyspepsia is recorded. Dyspepsia is an acute disease of newborns (up to 10 days), accompanied by digestive disorders, dehydration and intoxication. Calves and piglets are most often affected, lambs and foals are less often affected. (age):

This pathology is caused, first of all, by violations in the technology of obtaining and raising newborns (indicate three correct answers in ascending order):

1. Feeding colostrum from nipple drinkers with the head raised;
2. Feeding colostrum from a bucket with the head lowered;
3. Delayed (an hour after birth) first feeding of colostrum;
4. Feeding contaminated, cold colostrum or colostrum obtained from cows with mastitis;
5. Feeding colostrum in the first half hour after birth.

Answer: 2,3,4.

Closed type tasks to establish compliance

Task 9.

Read the text and establish a correspondence.

Pathology of the urinary system organs in farm animals can be associated with individual developmental defects, secondary disorders in the urinary tract and the impact of various factors on the urinary organs, mainly toxic or infectious in nature.

Establish a correspondence between diseases of the urinary system and their definitions:

Disease		**Definition**	
A.	Urolithiasis	1	A disease with inflammation of the renal parenchyma, including the glomerular apparatus and intertubular connective tissue.
B.	Nephritis	2	A disease with dystrophic and necrotic lesions of the epithelium

			of the tubules and vessels of the glomerulus of the nephron without an inflammatory reaction.
C.	Nephrosis	3	A disease characterized by the formation of urinary stones or sand (urosidiment) in the kidneys/bladder or their retention in the lumen of the ureters and urethra.
D.	Nephrosclerosis	4	A disease with compaction of the kidneys due to proliferation of connective tissue, sclerosis of the renal vessels and atrophy of the parenchyma.

Write the selected numbers under the corresponding letters.

A	B	C	D

Key: A-3,B-1,C-2,D-4.

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

Task 10.

Read the text and establish a match.

Microelementoses are a disease characterized by a violation of the metabolism of microelements, leading to their deficiency, excess or violation of the ratio between microelements.

The occurrence of microelementoses depends on the content of microelements in the soil, water and feed.

Microelementoses are endemic diseases that occur in certain biogeochemical provinces.For each position given in the left column (disease), select the corresponding position from the right column (characterizing a particular disease):

Disease		**Deficiency of**	
A.	Hypocuporosis	1	Iodin
B.	Hypocoboltosis	2	Fluorine
C.	Endemic caries	3	Copper
D.	Endemic goiter	4	Kobolt

Write the selected numbers under the corresponding letters.

A	B	C	D

Key: A-3,B-4,C-2,D-1.

Task 11.

Read the text and match.

Feed poisoning in animals occurs when they eat improperly prepared or poor-quality feed. Poisoning with different products is accompanied by different pathogenesis

For each position given in the left column (poisoning), select the corresponding position from the right column (corresponding pathogenesis):

Poisoning		**Pathogenesis**	
A.	Nitrate and nitrite poisoning	1	A lot of ammonia is formed, which sharply inhibits oxidation-reduction reactions, which disrupts the function of the central nervous system.
B.	Solanine poisoning	2	When toxic substances enter the blood, they convert hemoglobin into methemoglobin, causing hypoxia.
C.	Urea poisoning	3	Local irritant effect on the mucous membrane of the gastrointestinal tract, as well as nervous disorders caused by absorption.

D.	Salt poisoning	4	A sharp disturbance of the ionic composition of the blood - a disturbance of the hemoglobin function – hypoxia.

Write the selected numbers under the corresponding letters.

A	B	C	D

Key: A-2,B-3,C-1,D-4.

Task 12.

Read the text and establish a correspondence.

The urinary system consists of two kidneys, two ureters, a bladder and a urethra. For visualization methods of diagnosing kidney diseases, it is necessary to know the species-specific features of their structure, including their appearance.

Establish a correspondence between the species of animal and the structural features of their kidneys:

Type of animal		**Features of the structure of the kidneys**	
A.	Cattle	1	Smooth, multipapillary
B.	Horse	2	The right kidney is cordate, unipapillate, smooth
C.	Pig	3	Smooth, single-papillary
D.	Sheep and goats	4	Grooved, multipapillary

Write the selected numbers under the corresponding letters.

A	B	C	D

Key: A-4,B-2,C-1,D-3.

PC-3 ID-5 To know the norms of indicators of the state of biological material of animals of different species and the reasons causing deviations of indicators from the norms.

Task 13.

Read the text and establish the sequence.

Allergy (Greek allos – other, ergon – I act) is an increased sensitivity of the body to an allergen after repeated contact with it. Primary contact of the allergen with immunocompetent cells leads to the production of antibodies – and immunoglobulins and their fixation on target cells (in particular on mast cells). A state of increased sensitivity to repeated exposure to the antigen occurs.

Three stages can be distinguished in the development of allergies.

Write down the numbers that indicate the stages of development of allergic reactions in the correct sequence.

1. Stage of pathophysiological disorders (consists of the reaction of cells, tissues, organs and the body as a whole damaged by the allergen);

2. Stage of immune reactions (accumulation in the body of antibodies specific to a given allergen);

3. Stage of pathochemical disorders (under the influence of the allergen-antibody complex, activation and release of biologically active substances occurs: histamine, serotonin, bradykinin, slowly reacting substance of anaphylaxis (SRS-A).

Answer: 2,3,1.

Task 14.

Read the text and establish the sequence.

Bilirubin is a bile pigment formed during the breakdown of red blood cells, which are produced by the red bone marrow. After leaving the bone marrow, red blood cells remain in the blood for about 120 days and then break down. This releases hemoglobin, which breaks down to form bilirubin.

Write down the numbers that indicate the stages of bilirubin metabolism in a healthy body in the correct order.

1. Indirect bilirubin combines with glucuronic acid and turns into direct bilirubin;
2. In the intestine, bilirubin breaks down and turns into urobilinogen;
3. Indirect bilirubin released from the reticuloendothelial system is transferred to hepatocytes with the bloodstream;
4. Direct bilirubin is excreted with bile into the duodenum.

Answer: 3,1,4,2.

Task 15.

Read the text and establish the sequence.

One of the methods of therapeutic technique when working with animals is the introduction of oral and nasogastric tubes.

Write down the numbers that indicate the stages of the technique for inserting tubes into animals, in the correct sequence.

1. Insert the tube through the mouth or nose with smooth, progressive movements;
2. Lubricate the tube with Vaseline;
3. Check the tube for patency;
4. Fix the animal.

Answer: 3,2,4,1.

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

Task 16.

Read the text and establish the sequence.

Acute gastric dilatation (pylorospasm) in horses is characterized by excessive accumulation of gases in the stomach due to spasm of the pylorus, as well as a disorder of the secretory and motor functions of the stomach.

Write down the numbers that correspond to the stages of pathogenesis of this disease, in the correct sequence.

1. Stretching of the stomach wall causes a strong, painful contraction;
2. Excitation of the sympathetic nervous system occurs with persistent spasm of the pylorus;
3. A focus of excitation is formed in the cerebral cortex with an increase in the flow of adrenaline into the animal's blood;
4. A significant amount of gases is formed.

Answer: 4,1,3,2.

OPEN TYPE TASKS

Task 17.

Read the text and write a detailed, reasoned answer.

The most common disease of the mesh in multi-chambered animals is traumatic reticulitis. This is damage to the wall of the mesh by foreign objects with subsequent inflammation.

Write a detailed answer that reveals the complications that may arise with traumatic reticulitis.

Answer: Reticuloperitonitis is a perforation of the mesh wall with the development of peritonitis (since the mesh is located in the abdominal cavity). Reticulopericarditis is a perforation of the mesh wall with the development of pericarditis (since the mesh is located directly behind the diaphragm).

Task 18.

Read the text and write a detailed, reasoned answer.

Salts of nitric acid (saltpeter), as well as other nitrogen-containing substances (urea, ammonia) are used in agriculture as mineral fertilizers. Derivatives of nitrous acid (nitrates) are used to combat plant pests and to preserve meat products. Animal poisoning with nitrates and nitrites is not uncommon.

Write a detailed, reasoned answer to the mechanism of development of poisoning with nitrates and nitrites.

Answer: Nitrates in the gastrointestinal tract under the influence of microorganisms are converted into nitrites. The latter, when entering the blood, convert hemoglobin into methemoglobin. Methemoglobin in the lungs is unable to combine with oxygen and convert it into oxyhemoglobin – hypoxia develops and a sharp disorder of all functions of the body occurs, especially the nervous system.

PC-3 ID-7 To know generally accepted criteria and classifications of animal diseases, registered lists of animal diseases.

Task 19.

Read the text and write down a detailed, reasoned answer.

Stress syndrome is a condition that occurs when the action of occurrence or pathological irritants and an active adaptive response from the body.

The concept of "stress" was introduced in 1936 by the Canadian scientist G. Selye. He proved that the pituitary-adrenal system is of key importance.

Write down a detailed, substantiated answer to the existing stages of stress in the correct sequence according to the mechanism of development.

Answer: 1. The stage of anxiety (mobilization). 2. The stage of resistance (resistance). 3. The stage of exhaustion.

Task 20.

Read the text and write a detailed, reasoned answer.

Rumen acidosis (lactic acidosis of rumen digestion, grain intoxication, wheat disease) is a widespread disease of ruminants of alimentary origin, characterized by increased production of lactic acid in the rumen, which reduces the pH of its contents and disrupts the acid-base balance in the animal's body.

Write a detailed answer indicating the etiology of rumen acidosis in ruminants.

Answer: Rumen acidosis occurs as a result of improper feeding of animals, primarily due to the consumption of large amounts of highly fermentable, carbohydrate-rich feeds, which leads to excessive production and accumulation of acids in the rumen.

DISCIPLINES "INTERNAL NON-COMMUNICABLE DISEASES": PC-5

CLOSED-TYPE TASKS

Combined-type tasks: choosing one correct answer from the options provided

PC-5 ID-1 To be able to use specialized information databases when choosing methods of treating animals.

Task 1.

Read the text and choose the correct answer.

Various types of research play an important role in establishing the diagnosis of animal diseases, prescribing therapy, and monitoring the effectiveness of treatment. Visual research methods include:

1. Biopsy;
2. Ultrasound;
3. Biochemical tests;
4. Complete blood count.

Answer: 2.

Task 2.

Read the text and choose the correct answer.

Ruminant acidosis is a disease characterized by rumen acidification, metabolic and digestive disorders. The problem most often occurs in highly productive animals in the spring and summer, when animal feeding is most intensive. The therapy used for rumen acidosis is called:

1. Acidifying;
2. Alkalizing;
3. Neutralizing;
4. Strengthening.

Answer: 1.

Task 3.

Read the text and choose the correct answer.

Occlusion of the omasum in ruminants is a non-contagious disease characterized by overfilling of the organ with feed masses and their drying out. The noises that will be heard when the omasum is obstructed are called:

1. Tympanic;
2. No noise;
3. Splash noises;
4. Friction noises.

Answer: 2.

Task 4.

Read the text and choose the correct answer.

Toxic metabolic products of mold fungi, which belong to the class of natural toxins capable of causing serious animal diseases, are called:

1. Mycotoxicoses;
2. Mycotoxins;
3. Myxosporidia;
4. Mycoses.

Answer: 2.

Tasks of a combined type: choosing several correct answers from the options provided

Task 5.

Read the text and choose the correct answers.

Treatment of animals with internal non-communicable diseases, as with other diseases, should be purposeful and scientifically substantiated. The main goal of treatment is to achieve complete recovery of the animal, restoration of its productivity and obtaining full-fledged products. The principles of modern veterinary therapy include (indicate three correct answers in ascending order):

1. Preventive;
2. Active;
3. Physiological;

4. Conservative;
5. Portable.
Answer: 1,2,3.

PC-5 ID-2 To be able to calculate the amount of medications for treating animals and preventing diseases with the preparation of prescriptions for a certain period.

Task 6.

Read the text and choose the correct answers.

The motor function of the forestomachs of ruminants ensures the mixing of the contents, their grinding and evacuation into the abomasum and is the most important factor in maintaining the homeostasis of the rumen environment and the normal functioning of microorganisms. The following methods can be used to enhance the motor function of the forestomachs of cattle

methods (indicate three correct answers in ascending order):

1. Introduction of white hellebore tincture;
2. Introduction of ichthyol;
3. Use of bitters;
4. Massage of the left iliac region;
5. Massage in the area of the xiphoid process.

Answer: 1,3,4.

Task 7.

Read the text and choose the correct answers.

Bile accumulates in the gallbladder. From there, the secret is released into the duodenum and takes part in the processes of digestion and absorption of fats. Choleretic drugs include (indicate three correct answers in ascending order):

1. Allochol;
2. Hofitol;
3. Essentiale;
4. Holosas;
5. Licorice syrup.

Answer: 1,2,4.

Task 8.

Read the text and choose the correct answers.

Drugs that stimulate erythropoiesis (indicate three correct answers in ascending order):

1. Erythropoietin;
2. Essentiale;
3. Emicidin;
4. Iron preparations;
5. Epocrinum.

Answer: 1,4,5.

Closed type tasks to establish compliance

Task 9.

Read the text and establish a match.

Diuretics are drugs used to increase urine production, remove excess water from the body and eliminate edema.

The action of diuretics is realized in the nephron.

The process of urine formation occurs in it - filtration of primary urine from blood plasma in the glomerulus of the nephron and the further process of formation of secondary urine in the tubules of the nephron due to reabsorption and secretion of various excreted substances into the urine.

Establish a correspondence between the group of diuretics from the left column and its representative from the right:

Diuretic group		Representative	
A.	Potassium-sparing diuretics	1	Indapamide
B.	Osmotic diuretics	2	Spironolactone
C.	Loop diuretics	3	Mannitol
D.	Thiazide and Thiazide-like diuretics	4	Furosemide

Write the selected numbers under the corresponding letters:

A	B	C	D

Key: A-2,B-3,C-4,D-1.

PC-5 ID-3 To be able to calculate the amount of medications for the treatment of animals and disease prevention with the preparation of prescriptions for a certain period, including using digital technologies

Task 10.

Read the text and establish a correspondence.

A coagulogram is a laboratory test that evaluates the functioning of the blood coagulation system.

Establish a correspondence between the coagulogram indicators and their interpretation:

Coagulogram indicators		Decoding indicators	
A.	Prothrombin time	1	Assesses the second phase of plasma hemostasis
B.	Activated partial thromboplastin time	2	This is the time required for the formation of a fibrin clot in plasma when thrombin is added to it
C.	Thrombin time	3	Assesses the third phase of plasma hemostasis: fibrin formation
D.	Fibrinogen	4	Allows to detect deficiency of plasma coagulation factors

Write the selected numbers under the corresponding letters:

A	B	C	D

Key: A-1,B-4,C-2,D-3.

Task 11.

Read the text and establish a correspondence.

Allergy is a pathological immune response of the body to repeated contact with an allergen. Treatment of allergies combines a set of measures to eliminate the symptoms and causes of the abnormal reaction of the immune system with the prevention of repeated relapses.

Establish a correspondence between the drug used for allergies and its action:

Preparation		Effect of the drug	
A.	Adrenalin	1	It has a local anesthetic, antispasmodic and moderate ganglionic blocking effect
B.	Prednisolone	2	Suppresses the functions of leukocytes and tissue macrophages. Limits the migration of leukocytes to the area of inflammation. Reduces capillary permeability caused by the release of histamine
C.	Dimedrol	3	It has a stronger vasoconstrictor and pressor effect, a lesser stimulating effect on heart contractions, a weak bronchodilator effect, and a weak effect on metabolism (no pronounced hyperglycemic effect)
D.	Atropine sulfate	4	Relaxes the smooth muscles of the bronchi, reduces the tone

			and motility of the gastrointestinal tract, dilates the pupils, helps to reduce intraocular pressure. Causes hyperglycemia and increases the content of free fatty acids in plasma

Write the selected numbers under the corresponding letters:

A	B	C	D

Key: A-4,B-2,C-1,D-3.

PC-5 ID-4 To be able to administer drugs into the body of animals in various ways.

Task 12.

Read the text and establish a correspondence.

Poisoning is a group of animal diseases caused by the entry of toxic substances into their bodies. Antidote therapy is the most important component of the complex treatment of poisoning.

Establish a correspondence between toxic substances and the antidotes used to neutralize them.

Poisoning		**Antidote**	
A.	Organophosphorus compounds	A.	Organophosphorus compounds
B.	Heavy metal salts	B.	Heavy metal salts
C.	Nitrates and nitrites	C.	Nitrates and nitrites
D.	Organochlorine compounds	D.	Organochlorine compounds

Write the selected numbers under the corresponding letters:

A	B	C	D

Key: A-2,B-4,C-1,D-3.

Closed type tasks to establish a sequence

Task 13.

Read the text and establish the sequence.

Liquid can be introduced into the rectum (rectally) in two ways – hydraulically and by pumping. When introducing liquids into the rectum hydraulically, it comes from a reservoir located above the animal's body, under the influence of gravity.

Write down the numbers that indicate the stages of the technique for giving an enema to farm animals, in the correct sequence.

1. The tips of the rubber tubes are lubricated with Vaseline;
2. The animal is fixed in a standing position;
3. The solution is prepared;
4. The tip is carefully inserted into the rectum.

Answer: 3,2,1,4.

PC-5 ID-5 To know the methods of drug treatment of sick animals and indications for their use in accordance with guidelines, instructions, manuals, rules for diagnostics, prevention and treatment of animals.

Task 14.

Read the text and establish the sequence.

A cow with signs of traumatic reticulitis fell ill on the farm. Write down the numbers that correspond to the stages of treatment for this disease in the correct sequence.

1. Administration of antibiotics;
2. Installation of a magnetic probe;

3. Pain relief;

4. Administration of drugs to restore gastrointestinal motility.

Answer 3,2,4,1.

Task 15.

Read the text and establish the sequence.

A cow is diagnosed with exudative pericarditis. Write down the numbers that correspond to the stages of treatment for this disease in the correct sequence.

1. Hospitalization;

2. Pain relief;

3. Administration of diuretics;

4. Thoracocentesis.

Answer 2,4,3,1.

Task 16.

Read the text and establish the sequence.

A horse with signs of colic fell ill on the farm. Write down the numbers that correspond to the stages of treatment of this disease, in the correct sequence.

1. Walking;

2. Insertion of a nasoesophageal tube;

3. Pain relief;

4. Treatment of dehydration.

Answer 1,3,2,4.

PC-5 ID-8 To know the technique of administering drugs into the animal's body by enteral (oral, sublingual and rectal administration) and parenteral (injections, inhalations and skin applications) methods.

OPEN TYPE TASKS

Task 17.

Read the text and write a detailed, reasoned answer.

Therapeutic technique includes a set of techniques and methods used in veterinary medicine to treat animals. Depending on the method of giving drugs to animals, the methods of administration are divided into voluntary and forced (violent).

Write a detailed answer about what is considered a voluntary method of administering drugs to animals.

Answer: Voluntary methods of administering drugs include giving drugs with food or water.

Task 18.

Read the text and write a detailed, reasoned answer.

When treating animals with drugs, a veterinary specialist must know the exact dose, concentration of solutions, compatibility of drugs, taking into account the state of the body, live weight, species and age of the animal. Depending on this, the most appropriate method of administering the drug is selected.

Write a detailed, reasoned answer that explains the meaning of the concept of "parenteral administration".

Answer: Parenteral administration is the use of drugs bypassing the gastrointestinal tract.

Task 19.

Read the text and write a detailed, reasoned answer.

To administer liquid medicinal substances to animals internally, various nasoesophageal and orogastric tubes, as well as medical gastric tubes of different sizes, can be used. They are selected depending on the size of the animal, their integrity and patency are checked, roughness on the surface is removed and before use they are disinfected with antiseptic solutions or boiled.

Write down a detailed answer from the person after whom (last name) the probe used for washing the forestomachs of cattle is named.

Answer: The Cherkasov probe is most often used to wash the forestomachs of cattle and introduce medicinal substances into the rumen.

Task 20.

Read the text and write down a detailed, reasoned answer.

Write down a detailed, reasoned answer: why is the rumen puncture performed in ruminants?

Answer: This operation is performed as one of the methods of emergency care for acute tympania and for the introduction of medicinal substances into the rumen when other methods are not feasible.

DISCIPLINES "INTERNAL NON-COMMUNICABLE DISEASES": PC-6

CLOSED TYPE TASKS

Combined-type tasks: choosing one correct answer from the options provided

PC-6 ID-1 To be able to use special equipment, including digital equipment, when conducting medical, including physiotherapeutic procedures in accordance with the instructions for its operation.

Task 1.

Read the text and choose the correct answer.

Omasum blockage (clogging) is a disease of ruminants, characterized by overfilling of the interleaf spaces of the book with dried feed masses, earth or sand. The most effective treatment for omasum blockage is:

1. Omasum puncture;
2. Administration of ruminative agents;
3. Omasum massage;
4. Probing.

Answer: 1.

Task 2.

Read the text and choose the correct answer.

The sections of the complex stomach of ruminant's contract in a strictly coordinated manner, in a certain sequence and rhythm. Even a temporary disturbance of motility can lead to the death of the animal. Ruminatory drugs include:

1. Bicillin;
2. White hellebore tincture;
3. Ascorbic acid;
4. Sodium bicarbonate.

Answer: 2.

Task 3.

Read the text and choose the correct answer.

Bilirubin is a bile pigment, one of the main components of bile in the body of humans and animals. In healthy animals, bilirubin can be found in blood samples:

1. Only direct;
2. Only indirect;
3. Direct and indirect;
4. Bilirubin should not be in the blood.

Answer: 3.

PC-6 ID-2 To be able to fix animals to ensure safety during medical procedures

Task 4.

Read the text and choose the correct answer.

The restraint of animals plays an important role in veterinary practice, ensuring a calmer state of animals during operations, medical procedures, and special diagnostic studies. The following are used to restrain horses:

1. Collar;
2. Muzzle;
3. Halter;
4. Belt with a ring according to K.P. Sokolov.

Answer: 3.

Tasks of a combined type: choosing several correct answers from the options provided

Task 5.

Read the text and choose the correct answers.

The act of knocking down a horse is to enable the animal to reduce the impact of the fall due to its instinct for self-preservation. Methods of knocking down horses (indicate two correct answers in ascending order):

1. Hess's method;
2. Korshunov's method;
3. N.I. Miron's method;
4. Russian method;
5. Caucasian method.

Answer: 3,4.

Task 6.

Read the text and choose the correct answers.

Cattle restraint is necessary to ensure safety during medical and preventive operations. Methods of cattle restraint (*indicate three correct answers in order of age*):

1. By the horns and muzzle with a halter;
2. By the nasal septum;
3. By means of pulls;
4. By means of muzzles;
5. By means of an anti-kick.

Answer: 2,3,5.

PC-6 ID-3 To be able to maintain accounting and reporting documentation on diseases and treatment of animals using digital technologies.

Task 7.

Read the text and choose the correct answers.

The following methods are effective as a source of ultraviolet radiation (indicate two correct answers in ascending order):

1. Sun rays;
2. Quartz lamp;
3. Ultraviolet lamps;
4. Germicidal lamp.

Answer: 1.3.

Task 8.

Read the text and choose the correct answers.

Select the points on the basis of which the diagnosis is made

1. Based on clinical signs;

2. Based on anamnesis;
3. Based on the results of pathological examination;
4. Based on laboratory tests;
5. Based on etiotropic therapy.
Answer: 1,2,3.

Closed type tasks to establish compliance

PC-6 ID-4 To know the types of non-drug therapy, including physiotherapy, used in veterinary medicine, and indications for their use.

Task 9.

Read the text and establish a correspondence.

Pathogenetic therapy is aimed at eliminating the mechanism of disease development by stimulating the body's defenses. One of the methods of pathogenetic therapy is hemotherapy.

Establish a correspondence between the type of pathogenetic therapy and its definition:

Type of pathogenetic therapy		**Definition**	
A.	Hemotherapy	1	Subcutaneous or intramuscular injection of blood from an animal of another species
B.	Autohemotherapy	2	General concept – subcutaneous or intramuscular administration of whole blood
C.	Isohemotherapy	3	Subcutaneous or intramuscular injection of one's own blood
D.	Heterohemotherapy	4	Subcutaneous or intramuscular injection of blood from an animal of the same species

Write the selected numbers in the table under the corresponding letters.

A	B	C	D

Key A-2,B-3,C-4,D-1.

Task 10.

Read the text and establish a correspondence.

Methods of veterinary therapy are the use of means in a certain direction with the aim of eliminating the pathological process in the body. There are five methods of veterinary therapy.

Establish a correspondence between the type of therapy and its definition:

Type of pathogenetic therapy		**Definition**	
A.	Etiotropic	1	Aimed at eliminating the mechanism of disease development by stimulating the body's defenses
B.	Pathogenetic	2	Aimed at eliminating or alleviating the clinical signs of the disease
C.	Substitute	3	Aimed at replenishing missing components in the body
D.	Symptomatic	4	Aimed at eliminating the causes that caused the disease

Write the selected numbers in the table under the corresponding letters

A	B	C	D

Key: A-4,B-1,C-3,D-2.

Task 11.

Read the text and establish a correspondence.

Treatment of animals should be targeted and scientifically based, for which it is necessary to adhere to certain principles of therapy

Establish a correspondence between the principles of veterinary therapy and their definition:

Principle		Definition	
A.	Prophylactic	1	Based on knowledge of the physiological processes of the animal organism
B.	Active	2	Based on the doctrine of the inseparable connection of the organism with the external environment and the unity of all systems and organs
C.	Physiological	3	Based on preventing the occurrence of diseases (the main principle)
D.	Complex	4	Consists of providing medical assistance to animals at early stages

Write the selected numbers in the table under the corresponding letters:

A	B	C	D

Key: A-3,B-4,C-1,D-2.

PC-6 ID-6 To know the methods and techniques of non-drug effects on the body of animals.

Task 12.

Read the text and establish a correspondence.

Physiotherapy is understood as the use of various natural (natural) or artificially reproduced forces of nature for the treatment of various diseases.

Establish a correspondence between the type of physiotherapy and its definition:

Type of physiotherapy		Definition	
A.	Galvanization	1	This is a method of local exposure to direct electric current through electrodes and wet hydrophilic pads.
B.	Electrophoresis	2	This is an effective method of treatment and prevention of diseases based on the effects of open fresh air.
C.	Aerotherapy	3	This is the use of electromagnetic waves of infrared, visible, ultraviolet or laser radiation for therapeutic and preventive purposes.
D.	Phototherapy	4	This is the effect on the body of a constant electric current in combination with the introduction of various medicinal substances through the skin or mucous membranes.

Write the selected numbers in the table under the corresponding letters.

A	B	C	D

Key: A-1,B-4,C-2,D-3.

Closed type tasks to establish a sequence

Task 13.

Read the text and establish the sequence.

The animal shows signs of laryngitis. Describe the sequence of physiotherapeutic treatment in the correct order.

1. Aerosol administer medications;
2. Irrigate the mucous membrane of the pharynx;

3. Apply a warming compress to the neck;
4. Administer painkillers.
Answer. 2,4,1,3.

Task 14.

Read the text and establish the sequence.

Write the numbers in the correct sequence describing the stages of magnetic therapy for urolithiasis in carnivores.

1. Urine diversion by cystocentesis;
2. Installation of magnets in the bladder area;
3. Determining the exposure time;
4. Preparation of a sterile field in the projection of the bladder.

Answer. 4,1,3,2.

PC-6 ID-7 To know the methods of fixing animals during their treatment

Task 15.

Read the text and establish the sequence.

A calf has been diagnosed with bronchopneumonia. Specify the correct sequence for applying a warming compress to the chest area.

1. Apply a fixing bandage;
2. Cut off the wool;
3. Apply a layer of soft clean cloth soaked in alcohol;
4. Apply a warming layer of cotton wool;
5. Apply an impermeable layer of polyethylene.

Answer. 2,3,5,4,1.

Task 16.

Read the text and establish the sequence.

There is a certain sequence for diagnosing an animal at the initial appointment. Write down the numbers that correspond to the stages of the study in the correct sequence.

1. General research methods;
2. Additional research methods;
3. Medical history;
4. Life history.

Answer: 4,3,1,2.

OPEN TYPE TASKS

Task 17.

Read the text and write a detailed, reasoned answer.

The choice of fixation method depends on the type of animal, the nature of the operation, and the condition of the sick animal.

Write a detailed answer that explains the main methods of fixing pigs.

Answer: Pigs are usually fixed in a standing position using a metal twist for the upper jaw or long forceps.

PC-6 ID-8 To know the forms and rules for filling out a journal for registering sick animals and the animal's medical history in accordance with the requirements of veterinary records, including in digital format.

Task 18.

Read the text and write a detailed, reasoned answer.

The most important indicators of animal health: pulse, respiratory rate and body temperature.

Write a detailed, reasoned answer for physiological data: temperature (^{0}C), pulse (beats/min) and respiration (once per minute) of cattle.

Answer: Temperature 37,5-39,0°C, pulse 50-80 beats/min, respiratory rate 10-30 times per minute.

Task 19.

Read the text and write a detailed, reasoned answer.

The most important indicators of animal health: pulse, respiratory rate and body temperature.

Write a detailed, reasoned answer for physiological data: temperature (^{0}C), pulse (beats/min) and respiration (once per minute) of a horse.

Answer: Temperature 37,5-38,5°C, pulse 24-42 beats/min, respiratory rate 8-16 times per minute.

Task 20.

Read the text and write a detailed, reasoned answer.

The most important indicators of animal health: pulse, respiratory rate and body temperature.

Write a detailed, reasoned answer for physiological data: temperature (^{0}C), pulse (beats/min) and respiration (times per minute) of a pig.

Answer: Temperature 38,0-40,0°C, pulse 60-90 beats/min, respiratory rate 8-18 times per minute.

DISCIPLINES "INTERNAL NON-COMMUNICABLE DISEASES": PC-10

CLOSED TYPE TASKS

Combined-type tasks: choosing one correct answer from the options provided

PC-10 ID-1 To be able to evaluate the effectiveness of treatment.

Task 1.

Read the text and choose the correct answer.

Disorders of forestomach motility are primarily associated with hypotension and atony of the rumen. Hypotonia of the forestomach is primarily characterized by:

1. Disorders of the secretory function of the rumen;
2. Disorders of the absorptive function of the rumen;
3. Disorders of the motor function of the rumen;
4. Disorders of the protective function of the rumen.

Answer: 3.

Task 2.

Read the text and choose the correct answer.

Book blockage or clogging is a disease that manifests itself in decreased motility of the forestomachs, digestive disorders, pain and intoxication. Cause: clogging and sticking of book leaves when feeding with sand-contaminated feed, chaff and compound feed with insufficient watering. The most effective treatment for book blockage is:

1. Puncture of the book with administration of diluting agents;
2. Administration of ruminative agents;
3. Massage of the book;
4. Probing.

Answer: 3.

Task 3.

Read the text and choose the correct answer

Jaundice is a symptom complex characterized by yellowing (icterus) of the skin and mucous membranes of an animal. With mechanical jaundice, the feces will have the color: 1. Acholic;

2. Dark brown;
3. Red;
4. The color of the feces will not change.
Answer: 1.

Task 4.

Read the text and choose the correct answer.

One of the syndromes of liver disease is portal hypertension. Portal hypertension is characterized by:

1. Persistent increase in blood pressure in the portal vein;
2. Shrinkage of the spleen;
3. Yellowing of the mucous membranes;
4. Periodic attacks of pain.

Answer: 1.

Tasks of a combined type: choosing several correct answers from the options provided

Task 5.

Read the text and choose the correct answers.

Acidity of gastric juice is a characteristic of the concentration of hydrochloric acid in the gastric juice. It is measured in pH units.

Increased acidity of rennet juice is accompanied by (indicate two correct answers in ascending order):

1. Slowing down of motility;
2. Constipation;
3. Increased motility;
4. Diarrhea.

Answer: 1,2.

Task 6.

Read the text and choose the correct answers.

Respiratory diseases are among the most common diseases today among farm animals in industrial livestock farming.

Lung diseases include (indicate three correct answers in ascending order):

1. Chest dropsy;
2. Laryngeal edema;
3. Pulmonary edema;
4. Lobar pneumonia;
5. Aspiration pneumonia.

Answer: 3,4,5.

Task 7.

Read the text and choose the correct answers.

Bronchitis is an inflammatory disease of the respiratory system, characterized by predominant damage to the bronchi. Bronchitis is one of the most common diseases among animals.

Characteristic signs of chronic bronchitis (indicate three correct answers in ascending order):

1. Splenomegaly;
2. Paleness of mucous membranes;
3. Decreased productivity and performance of animals;
4. Constantly wet cough;
5. Weight loss;

Answer: 2,3,5.

Task 8.

Read the text and choose the correct answers.

The purpose of the medical examination is (indicate two correct answers in ascending order):

Cystospasm of the bladder is characterized by:

1. Nocturia;
2. Urinary incontinence;
3. Reflex contraction of the sphincter of the bladder;
4. Enuresis;
5. Urinary retention.

Answer: 3.5.

Closed type tasks to establish a sequence

PC-10 ID-2 To be able to use specialized information databases when choosing methods of treating animal diseases.

Task 9.

Read the text and establish the sequence.

Blood collection technique. Write down the sequence of actions when taking blood from a vein in a logical sequence.

1. Skin disinfection;
2. Applying a tourniquet above the needle insertion site;
3. Puncture of the skin and veins;
4. Preparation of test tubes corresponding to the stated tests or laboratory lamps, needle, holder, alcohol wipes or cotton swab, etc.

Answer: 4,2,1,3.

Task 10.

Read the text and establish the sequence.

Write down the numbers that reveal the stages of the repeated appointment of the animal, in the correct sequence.

1. Visual examination of the animal;
2. Questioning the owner of the animal about its clinical condition;
3. Taking repeated blood, urine, etc. tests;
4. Adjusting the previously prescribed treatment.

Answer 2,1,3,4.

Task 11.

Read the text and establish the sequence.

A cat has been diagnosed with nephrosclerosis against the background of chronic kidney disease stage 3. Write down the numbers that correspond to the stages of treatment for this disease in the correct sequence.

1. Tonometry;
2. Changing the dose of the drug that reduces blood pressure;
3. Changing the diet to renal feed;
4. Repeated clinical and biochemical blood tests.

Answer. 4,1,2,3.

Task 12.

Read the text and establish the sequence.

The cow is diagnosed with ketosis (in clinical form). Write down the numbers revealing the treatment in the correct sequence?

1. Propylene glycol;
2. Eliminate etiological factors;

3. Glucose;
4. Insulin.
Answer 2,3,4,1.

Closed type tasks to establish compliance

Task 13.

Read the text and establish a match.

Treatment of respiratory diseases should be aimed at eliminating the cause of the disease, correcting the symptoms and restoring the function of the affected organs. Each specialist must know the groups of medication with their representatives in order to prescribe high-quality therapy to animals.

For each position given in the left column, select the corresponding position from the right column:

Name of the medication		**Medication group**	
A.	Acetylcysteine	1.	Expectorants
B.	Salbutamol	2.	Bronchodilators
C.	Atrovent	3.	Mucolytic agents
D.	Loratadine	4.	H1-histamine receptor blocker

Write the selected numbers in the table under the corresponding letters:

A	B	C	D

Key: A-3,B-1,C-2,D-4.

Task 14.

Read the text and establish a match.

Of all non-infectious diseases in horses, the most difficult and incomprehensible in differential diagnostics are diseases of the gastrointestinal tract (GIT) with colic phenomena. Colic is a syndrome characterized by pain in the abdominal and pelvic cavities. Each specialist needs to know the groups of drugs with their representatives in order to prescribe high-quality therapy to animals.

For each position given in the left column, select the corresponding position from the right column:

Name of the medication		**Medication group**	
A.	Lidocaine	1	Local anesthetic
B.	Sodium bicarbonate	2	Anti-spasmodic
C.	Drotaverine	3	Non-narcotic analgesic
D.	Analgin	4	Antiacidemic

Write the selected numbers in the table under the corresponding letters:

A	B	C	D

Key: A-1,B-4,C-2,D-3.

Task 15.

Read the text and establish a match.

Allergy is a hypersensitivity of the body, developed by the adaptive immune system in response to non-infectious substances in the environment, including non-infectious components of some infectious organisms. Allergy treatment is aimed at specific (against a specific allergen) and non-specific hyposensitization of the body.

For each position given in the left column, select the corresponding position from the right column:

Name of the medication	**Medication group**

A.	Prednisolone	1	Cytostatic drugs
B.	Cyclophosphamide	2	Antihistamine
C.	Adrenalin	3	Synthetic glucocorticoid drug
D.	Zodak	4	Alpha- and beta-adrenergic agonist

Write the selected numbers in the table under the corresponding letters:

A	B	C	D

Key: A-3,B-1,C-4,D-2.

Task 16.

Read the text and establish the correspondence.

The doctrine of disease about the name nology. A nosological form is any disease that has one or another cause, pathogenesis and characteristic clinical and morphological signs. For the treatment of animals and the best concepts of drugs, it is necessary to take into account individual phenomena.

For each position given in the left column, select the corresponding position from the right column:

Name of the disease section		**Its characteristics**	
A.	Etiology	1	This is a brief medical report on the pathological state of health of an animal
B.	Pathogenesis	2	This is a section of medicine that studies the causes and conditions of the occurrence of diseases
C.	Diagnosis	3	This is the mechanism of the occurrence and development of diseases and their individual manifestations
D.	Treatment	4	This is a process whose purpose is to eliminate a disease or injury, a pathological condition or other disruption of the body's vital functions

Write the selected numbers in the table under the corresponding letters:

A	B	C	D

Key: A-2,B-3,C-1,D-4.

CLOSED-TYPE TASKS

PC-10 ID-3 To know the methods of drug treatment of sick animals and indications for their use in accordance with guidelines, instructions, manuals, rules for diagnosis, prevention and treatment of animals.

Task 17.

Read the text and write a detailed, reasoned answer.

Nephritis is an inflammation of the renal parenchyma, including the glomerular apparatus and intertubular connective tissue. In the acute course, the following are noted: increased body temperature, general depression, decreased or lost appetite, edema, pain in the kidney area. Blood pressure increases, uremia develops.

Write a detailed, reasoned answer about what treatment for nephritis is aimed at.

Answer: Treatment for nephritis is aimed at eliminating the causes of the disease, inflammation, intoxication, restoring diuresis, correcting water-electrolyte balance and acid-base balance.

Task 18.

Read the text and write a detailed, reasoned answer

The accumulation of exudate in the pericardial cavity leads to significant compression of the heart - "tamponade", which leads to cardiac arrest.

With "tamponade" of the heart, the movements of the diaphragm are limited, venous congestion occurs in the lungs and liver.

Write down a detailed, reasoned answer that reveals the name of the procedure performed when there is a threat of cardiac tamponade.

Answer: Puncture of the pericardial cavity.

Task 19.

Read the text and write a detailed, reasoned answer.

This is a metabolic disorder (fat, protein and carbohydrate) with accumulation of ketone bodies in the body.

Write a detailed, reasoned answer about the names of ketone bodies in ruminants.

Answer: Ketone bodies: acetone, beta-hydroxybutyric acid, acetoacetic acid.

Task 20.

Read the text and write a detailed, reasoned answer.

Equine myoglobinuria is an acute disease characterized by disruption of protein and carbohydrate metabolism, dystrophic changes in striated muscles, paresis and paralysis, and the excretion of myoglobin in the urine. A distinction is made between paralytic and enzootic myoglobinuria.

Write a detailed, reasoned answer to the etiology of paralytic myoglobinuria.

Answer: Etiology: transition from a state of rest to intense exercise, as well as with abundant concentrated feeding.

DISCIPLINES "INTERNAL NON-COMMUNICABLE DISEASES": PC-15

CLOSED TYPE TASKS

Combined-type tasks: choosing one correct answer from the options provided

PC-15 ID-1 To be able to assess the impact of animal housing and feeding conditions on their health within the framework of implementing plans for animal disease prevention using digital technologies.

Task 1.

Read the text and choose the correct answer.

The most common causes of digestive system diseases are changes in environmental conditions.

Inflammation of the mucous membrane of the pharynx, soft palate, lymphatic follicles, nodes and tonsils is:

1. Rhinitis;
2. Stomatitis;
3. Laryngitis;
4. Pharyngitis.

Answer: 4.

Task 2.

Read the text and choose the correct answer.

The liver is an extremely important organ for the body. There are a number of different liver diseases in dogs, and hepatitis is one of the most common.

Hepatitis in dogs is most often:

1. Non-infectious in nature;
2. Infectious in nature;

3. Fungal in nature;
4. Does not occur in dogs.
Answer: 2.

Task 3.

Read the text and choose the correct answer.

Pyelonephritis is a non-specific inflammatory process with predominant damage to the renal tubular system, mainly of bacterial etiology, characterized by damage to the renal pelvis (pyelitis), calyces and parenchyma of the kidney (mainly its interstitial tissue)

Pyelonephritis is divided according to its course into:
1. Acute and chronic;
2. Acute, subacute, chronic;
3. Primary and secondary;
4. Abortive, acute, chronic.
Answer: 1.

Task 4.

Read the text and choose the correct answer.

Crystalluria is the presence of various crystalline inclusions in urine. It can occur in healthy animals or be a sign of a serious disease. The type of crystals, their quantity, and repeated detection during repeated studies are of diagnostic importance.

Insoluble crystals include:
1. Struvites;
2. Oxalates;
3. Urates;
4. Nitrites.
Answer: 2.

Task 5.

Read the text and choose the correct answers.

Enteroliths in horses are intestinal concretions (stones), dense bodies lying freely in the cavity of the gastrointestinal tract.

The reason for the formation of stones in the intestines of horses (indicate three correct answers in ascending order):
1. Drinking water with high salt content;
2. Feeding succulent food;
3. Intestinal hypotension;
4. Inflammation of the stomach and intestines;
5. High humidity in the room.
Answer: 1,3,4.

PC-15 ID-2 To be able to assess the effectiveness of preventive measures taken and methods for their implementation, including using digital technologies.

Task 6.

Read the text and choose the correct answers.

Bronchitis is an inflammatory disease of the respiratory system, characterized by predominant damage to the bronchi.

Characteristic signs of chronic bronchitis (indicate three correct answers in ascending order):
1. Weight loss;
2. Paleness of the mucous membranes;
3. Decreased productivity and performance of animals;
4. Appearance of alopecia;
5. Manege movements.

Answer: 1,2,3.

Task 7.

Read the text and choose the correct answers.

Nephritis occurs in all mammals, but most often in carnivores, then omnivores and less often in single-hoofed animals.

Prevention of nephritis (indicate three correct answers in ascending order):

1. Monthly deworming;
2. Compliance with standards for the preparation and storage of feed, as well as checking its quality;
3. Elimination of conditions that cause hypothermia in animals;
4. Active exercise;
5. Vaccination against parainfluenza.

Answer: 2,3,4.

Task 8.

Read the text and choose the correct answers.

Hematopoietic organs, blood depots are organs that serve as a place for the formation of formed elements of the blood.

The central organs of hematopoiesis and immunogenesis are represented by (indicate three correct answers in ascending order):

1. Red bone marrow;
2. Spleen;
3. Heart;
4. Kidneys;
5. Thymus.

Answer: 1,2,5.

PC-15 ID-4 To be able to perform diagnostic examination of animals as part of a medical examination for the timely detection of early preclinical and clinical signs of disease.

Closed type tasks to establish a sequence

Task 9.

Read the text and establish the sequence.

The technique of thermometry in animals should be performed by a veterinarian.

Thermometry is a clinical examination method that allows you to assess the condition of an animal, monitor the course of the disease, the effectiveness of treatment, identify complications and predict the development of the disease.
Write down the correct sequence for performing the thermometry technique.

1. If necessary, immobilize the animal;
2. Disinfect the thermometer;
3. Carefully insert the thermometer, rotating it along the longitudinal axis;
4. Shake the thermometer;
5. After measuring, carefully remove the thermometer, wipe it, and determine the body temperature on the scale.

Answer: 1,4,2,3,5.

Task 10.

Read the text and establish the sequence.

In modern veterinary medicine, specialists have access to several different methods of diagnostic imaging, including: radiography (X-rays), ultrasound diagnostics, magnetic resonance imaging (MRI) and computed tomography (CT).

1. Contact of the ultrasound sensor with the animal's skin;
2. Covering the area being diagnosed with a special gel;

3. The animal's fur in the area of interest is carefully shaved;

4. Fixing the animal.

Answer: 4,3,2,1.

Task 11.

Read the text and establish the sequence.

There are two main X-ray diagnostic methods: X-ray scanning (fluoroscopy) and X-ray imaging (radiography).

Write down the method of X-ray examination of an animal in the correct sequence:

1. Study dried photographs of good quality;

2. Place the animal on a special table in the required position;

3. Center the tube of the device, set the specified focal length;

4. Open the cassettes and develop the film in a specially darkened room.

Answer: 2,3,4,1.

Task 12.

Read the text and establish the sequence.

Animal medical examination is a system of planned veterinary diagnostic and therapeutic and preventive measures for the timely detection of early preclinical and clinical signs of diseases, their prevention and treatment of sick animals.

Write down the numbers in the correct order, revealing the stages of medical examination in agriculture:

1. Therapeutic;

2. Diagnostic;

3. Preventive.

Answer: 2,1,3.

PC-15 ID-5 To know the types of measures for the prevention of non-communicable animal diseases and metabolic disorders in animals and the requirements for their implementation in accordance with guidelines, instructions, guidelines, rules for the diagnosis, prevention and treatment of animals.

Closed-type tasks to establish compliance

Task 13.

Read the text and establish a correspondence.

Auscultation of the heart involves listening to the sounds produced by the heart during each heartbeat.

Establish a correspondence between the concept and its characteristic:

Concept		**Characteristic**	
A.	Heart sounds	1	Heartbeats Write the selected numbers in the table under the corresponding letters
B.	Heart murmurs	2	Sounds of a healthy heart
C.	Heart beats	3	Sounds of heart disease

Write the selected numbers in the table under the corresponding letters:

A	B	C

Ключ: A-2,B-3,C-1.

Task 14.

Read the text and establish a correspondence.

The condition of all sections of the multi-chamber stomach of ruminants is studied sequentially, using general, special and laboratory methods.

Establish a correspondence between the organs and the place of their study:

Organ		Location	
A.	Tripe	1	Abdominal wall along the costal arch, starting from the xiphoid cartilage and up to the 12th costal symphysis
B.	Reticulum	2	8-9 intercostal space on the right
C.	Book	3	Left hunger fossa
D.	Abomasum	4	Region of the xiphoid process

Write the selected numbers in the table under the corresponding letters:

A	B	C	D

Ключ: A-3,B-4,C-2,D-1.

Task 15.

Read the text and establish a correspondence.

The nature of breathing is determined mainly by the ratio of the length of inhalation and exhalation.

Establish a correspondence between the type of breathing and its definition:

Breathing type		Definition	
A.	Vesicular	1	Formed when a stream of air passes through the glottis, which causes vibration
B.	Laryngotracheal	2	of the walls of the trachea and large bronchi
C.	Amphoric	3	Formed by focal compaction of the lungs or narrowing of the bronchial lumen
D.	Hard	4	Formed by the layering of an additional high overtone on the bronchial breathing, which occurs as a result of the reflection of vibrations of the wall forming the cavity

Write the selected numbers in the table under the corresponding letters:

A	B	C	D

Ключ: A-2,B-1,C-4,D-3.

Task 16.

Read the text and establish a correspondence.

In addition to the characteristics of the main respiratory sounds, it may be necessary to evaluate secondary sounds.

Establish a correspondence between respiratory sounds and their definition:

Breathing noises Definition		Definition	
A.	Crepitation	1	This is a secondary noise formed when the alveoli separate at the end of the inhalation phase
B.	Pleural friction noise	2	They are formed when the lumen of the bronchi narrows and there is viscous thick secretion in them
C.	Wet rales	3	This is a peculiar sound symptom that occurs above the surface of the chest when the altered visceral and parietal pleura rub against each other
D.	Wet rales	4	Formed when air passes through liquid exudate

Write the selected numbers in the table under the corresponding letters:

A	B	C	D

Key: A-1,B-3,C-4,D-2.

OPEN TYPE TASKS

Task 17.

Read the text and write a detailed, reasoned answer.

Currently, the greatest economic damage to livestock farming is caused by internal non-infectious diseases of farm animals. Write a detailed, reasoned answer about what are the main causes of diseases.

Answer: Non-compliance with standards for conditions of keeping, feeding and using animals in specific farms.

Task 18.

Read the text and write a detailed, reasoned answer.

Dyspepsia is an acute disease of calves in the colostrum period, characterized by a disruption of digestion processes, metabolic disorders, hypogammaglobulinemia, increasing intoxication of the body, dehydration, and delayed growth and development. Write a detailed answer, at what age is dyspepsia diagnosed in calves?

Answer: Young animals in the first 10 days of life.

Task 19.

Read the text and write down a detailed, reasoned answer.

Pasture tetany in cattle is a disease characterized by a disorder of neuromuscular excitability. What mineral deficiency causes pasture tetany?

Answer: Magnesium and calcium.

Task 20.

Read the text and write a detailed, reasoned answer.

Explain the concept of what prevention is.

Answer: Prevention is a set of measures aimed at preventing a phenomenon and/or eliminating risk factors.

DISCIPLINES "INTERNAL NON-COMMUNICABLE DISEASES": PC-17

CLOSED TYPE TASKS

Combined-type tasks: choosing one correct answer from the options provided

PC-17 ID-1 To be able to perform diagnostic examination of animals as part of a medical examination, including using digital equipment, for the timely detection of early preclinical and clinical signs of disease.

Task 1.

Read the text and choose the correct answer.

Animal medical examination is a set of veterinary measures that are carried out to monitor the health and metabolic processes in the animal's body.

Recommended timeframes for conducting medical examinations:

1. When transferring animals to stall keeping;
2. At the end of stall keeping;
3. Twice, when transferring animals to stall keeping and at the end of stall keeping;
4. At any time convenient for the owner.

Answer: 3.

Task 2.

Read the text and choose the correct answer.

The purpose of medical examination is to maintain the health of animals, increase their productivity and create healthy, highly productive herds, especially in industrial dairy farming. The control groups of animals for medical examination by number most often consist of:

1. 10,0-15,0% of the herd size;
2. 50,0% of the herd size;
3. Any number of animals, at the discretion of the veterinarian;
4. 33,0% of the herd size.

Answer: 1.

Task 3.

Read the text and choose the correct answer.

Concentration, specialization of constant and systematic timely implementation of a set of veterinary-preventive and zootechnical measures that prevent the occurrence of animal diseases and ensure their high productivity.

The system of measures aimed at timely detection of signs of animal disease, disease prevention and treatment of sick animals is:

1. Inspection;
2. Medical examination;
3. Palpation;
4. Percussion.

Answer: 2.

Task 4.

Read the text and choose the correct answer.

Medical care for animals should be provided:

1. Only in compliance with the rules of asepsis;
2. Only in compliance with the rules of antisepsis;
3. In compliance with the rules of asepsis and antisepsis;
4. Without compliance with the rules.

Answer: 3.

Tasks of a combined type: choosing several correct answers from the options provided

Task 5.

Read the text and choose the correct answers.

Animal medical examination is a set of veterinary measures that are carried out to monitor the health and metabolic processes in the animal's body.

The purpose of the medical examination is (indicate two correct answers in ascending order):

1. Increasing animal productivity;
2. Maintaining animal health;
3. Increasing the cost of meat and milk;
4. Detecting early clinical signs of disease.

Answer: 1,2.

Task 6.

Read the text and choose the correct answers.

A feature of internal non-infectious diseases is that, in addition to obviously sick animals who receive medical care, there are many animals that are clinically healthy, but with impaired levels of protein, carbohydrate, vitamin, mineral and lipid metabolism. Such animals also need treatment, although they do not have pronounced symptoms of the disease.

Stages of conducting a medical examination (indicate three correct answers in ascending order):

1. Therapeutic;
2. Dietary;
3. Preventive;
4. Diagnostic;
5. Etiological.

Answer: 1,3,4.

Task 7.

Read the text and choose the correct answers.

There are three stages of medical examination: diagnostic, therapeutic, and preventive.

Based on the diagnostic stage of medical examination, animals are divided into three groups (indicate three correct answers in ascending order):

1. Clinically healthy animals without metabolic disorders;
2. Clinically recovered animals;
3. Clinically healthy animals with metabolic disorders;
4. Clinically sick animals;
5. Clinically developed animals.

Answer: 1,3,4.

Task 8.

Read the text and choose the correct answers.

There are three stages of medical examination: diagnostic, therapeutic, preventive.

The diagnostic stage of medical examination includes (indicate three correct answers in ascending order):

1. Animal therapy;
2. Feeding analysis;
3. Improving feeding conditions;
4. Content analysis;
5. Laboratory research.

Answer: 2,4,5.

Closed type tasks to establish a sequence

PC-17 ID-2 To know the methodology for conducting medical examination of animals in accordance with the guidelines in force in this area.

Task 9.

Read the text and establish the sequence.

When developing a plan for organizing zootechnical and veterinary activities, a specialist must evaluate (indicate the correct sequence):

1. The state of feeding and housing conditions for animals;
2. The causes of animal morbidity and mortality based on the analysis of reporting documentation;
3. Laboratory testing of feed and water;
4. Laboratory testing of blood, urine and feces from animals.

Answer: 2,4,1,3.

Task 10.

Read the text and establish the sequence.

Animal medical examination is a system of planned veterinary diagnostic and therapeutic and preventive measures for the timely detection of early preclinical and clinical signs of diseases, their prevention and treatment of sick animals.

Write down the numbers in the correct sequence, revealing the stages of medical examination in agriculture:

1. Therapeutic;
2. Diagnostic;
3. Preventive.

Answer: 2,1,3.

Task 11.

Read the text and establish the *sequence*.

Ketosis is a metabolic disorder characterized by a sharp increase in ketone bodies in the blood, urine and milk, a decrease in blood sugar and acidosis.

To prevent ketosis in cows on the farm, it is necessary to consistently carry out:

1. Analysis of animal feeding;

2. Laboratory analysis of ketone bodies in blood, urine and/or milk;
3. Clinical and biochemical blood analysis;
4. Preventive use of balanced drugs to replenish energy expenditure in animals.
Answer: 1,3,2,4.

Task 12.

Read the text and establish the sequence

Write down the numbers that reveal the correct sequence of the diagnostic stage of the medical examination, in the correct order:

1. Clinical examination of animals;
2. Laboratory studies of biological fluids of the animal;
3. Collection of anamnesis of feeding and keeping animals;
4. Formation of control groups for medical examination.

Answer 4,3,1,2.

Closed type tasks to establish compliance

Task 13.

Read the text and establish a match.

Animal medical examination is a set of veterinary measures that are carried out to monitor the health and metabolic processes in the animal's body. There are three stages of medical examination: diagnostic, therapeutic and preventive.

Establish a correspondence between the stage of medical examination and its characteristics:

Stage		**Characteristics of the stage**	
A.	Diagnostic	1	Improving the quality of feeding and maintenance
B.	Preventive	2	Conducting treatment and preventive measures for sick animals and clinically healthy animals
C.	Therapeutic	3	Clinical examination of livestock

Write the selected numbers in the table under the corresponding letters:

A	B	C

Key: A-3,B-1,C-2.

Task 14.

Read the text and establish a match.

Measurement of body temperature is a mandatory method of clinical examination during medical examination. Animals' body temperature is measured in the rectum with a thermometer, which is stored in a container with a disinfectant solution. The lower part of the thermometer is lubricated with Vaseline. Unruly animals are first fixed.

Each animal species has its own reference values for body temperature fluctuations.

For each position given in the left column, select the corresponding position from the right column:

Animal type		**Body temperature, ^{0}C**	
A.	Cattle	1	37,5-38,5
B.	Horse	2	37,5-39,5
C.	Pig	3	40,0-42,0
D.	Bird	4	38,0-40,0

Write the selected numbers in the table under the corresponding letters:

A	B	C	D

Key: A-2,B-1,C-4,D-3.

PC-17ID-3 To know the types of measures for the prevention of non-communicable animal diseases and metabolic disorders in animals and the requirements for their implementation in accordance with guidelines, instructions, manuals, rules for the diagnosis, prevention and treatment of animals.

Task 15.

Read the text and establish a match.

Measuring the pulse of animals during a medical examination helps to monitor their health. This indicator reflects the frequency and rhythm of the heartbeat, as well as the strength of the heart muscle impulses. Each animal species has its own reference values for heart rate fluctuations.

For each position given in the left column, select the corresponding position from the right column:

Animal type		**Pulse (bpm)**	
A.	Cattle	1	60-90
B.	Horse	2	24-42
C.	Pig	3	50-80
D.	Bird	4	150-200

Write the selected numbers in the table under the corresponding letters:

A	B	C	D

Key: A-3,B-2,C-1,D-4.

Task 16.

Read the text and establish a correspondence.

During a medical examination to monitor the condition of an animal, the respiratory movements of animals are measured for one minute. Each type of animal has its own reference values for the oscillation of the respiratory rate.

For each position given in the left column, select the corresponding position from the right column:

Animal type		**Breathing (breaths/min.)**	
A.	Cattle	1	15-20
B.	Horse	2	15-30
C.	Pig	3	8-16
D.	Bird	4	10-30

Write the selected numbers in the table under the corresponding letters:

A	B	C	D

Key: A-4,B-3,C-1,D-2.

OPEN TYPE TASKS

Task 17.

Read the text and write a detailed, reasoned answer.

Animal medical examination is a set of veterinary measures that are carried out to monitor the health and metabolic processes in the animal's body. Write a detailed, reasoned answer about the existing stages of medical examination in the order in which they are carried out.

Answer: Stages of medical examination: diagnostic, therapeutic, preventive.

Task 18.

Read the text and write down a detailed, reasoned answer.

The most important indicators of animal health: pulse, respiratory rate and body temperature.

Write a detailed, reasoned answer on the physiological data: temperature (^{0}C), pulse (beats/min.) and respiration (once per minute) of cattle.

Answer: Temperature 37,5-39,0°C, pulse 50-80 beats/min., respiration rate 10-30 times per minute.

Task 19.

Read the text and write a detailed, reasoned answer.

The most important indicators of animal health: pulse, respiration rate and body temperature.

Write a detailed, reasoned answer on the physiological data: temperature (^{0}C), pulse (beats/min.) and respiration (once per minute) of a horse.

Answer: Temperature 37,5-38,5°C, pulse 24-42 beats/min., respiration rate 8-16 times per minute.

Task 20.

Read the text and write a detailed, reasoned answer.

The most important indicators of animal health: pulse, respiration rate and body temperature

Write down a detailed, reasoned answer regarding physiological data: temperature (^{0}C), pulse (beats/min.) and respiration (once per minute) of a pig.

Answer: Temperature 38,0-40,0°C, pulse 60-90 beats/min., respiration rate 8-18 times per minute.

3.1.3. SITUATIONAL TASKS

The competence being formed: GPC-1 (GPC-1 ID-1, GPC-1 ID-2, GPC-1 ID-3) – Is able to determine the biological status, normal clinical signs of organs and systems of the animal body.

The competence being formed: GPC-2 (GPC-2 ID-1, GPC-2 ID-2) – Is able to interpret and evaluate in professional activity the influence of natural, socio-economic, genetic and economic factors on the physiological status of the animal body.

The competence being formed: PC-3 (PC-3 ID-1, PC-3 ID-2, PC-3, ID-3, PC-3 ID-4, PC-3 ID-5, PC-3 ID-6, PC-3 ID-7) – To set the diagnose based on the analysis of anamnesis, general, special (instrumental) and laboratory research methods

The competence being formed: PC-5 (PC-5 ID-1, PC-5 ID-2, PC-5 ID-3, PC-5 ID-4, PC-5 ID-5, PC-5 ID-8) – To carry out plan of animal treatment, based on the stated diagnosis and animals individual character ristics, signature of necessary remedies of chemical and biological nature for the treatment, taking into account combination of its pharmacological effect on the animal body.

The competence being formed: PC-6 (PC-6 ID-1, PC-6 ID-2, PC-6 ID-3, PC-6 ID-4, PC-6 ID-6, PC-6 ID-7, PC-6 ID-8) – The selection of the variety of methods of non-drug therapy, including physiotherapy methods for the treatment of animals, carry out therapeutic, including physiotherapy procedures using special equipment in compliance with safety rules.

The competence being formed: PC-10 (PC-10 ID-1, PC-10 ID-2, PC-10 ID-3) – Application of follow-up examinations and studies of animals to assess the effectiveness and safety of the prescribed treatment, detalisation of the animal treatment plan (if necessary) based on the results of the evaluation of the treatment effectiveness.

The competence being formed: PC-15 (PC-15 ID-1, PC-15 ID-2, PC-15 ID-4, PC-15 ID-5) – Management of organizational, technical, zootechnical and veterinary measures for the prevention of non-contagiouse diseases in accordance with the preventive plan, analysis of the effectiveness of measures for the prevention of animal diseases for its improvement.

The competence being formed: PC-17 (PC-17 ID-1, PC-17 ID-2, PC-17 ID-3) – Drawing up a plan for the medical examination of animals, taking into account its husbandry type, veteri nary examinations in order to preserve the health of animals and increase its

productivity, development of recommendations for preventive and treatment measures, based on the results of animal study, conducted as part of the veterinary examination.

1. In case of acute gastric dilation in a horse, it is necessary to urgently remove gases from the stomach. The veterinary paramedic used a nasoesophageal probe. At the same time, he pulled the animal's head forward as much as possible and pushed the probe with effort.

Analyze the actions of a veterinary specialist. What should be the sequence of the technique of inserting the nasoesophageal probe?

2. In the Druzhba farm, as a result of feeding substandard feed, three cows developed acute scarring. Veterinary specialists resorted to puncturing the scar using a trocar. The scar was pierced in the area of the left hungry fossa. After puncturing the scar, the trocar stiletto was immediately removed, leaving the sleeve. After 4-7 minutes, two cows fell. To make a diagnosis.

3. The horse has a depressed state, loss of appetite and decreased performance. In the study of the animal, cyanosis of the visible mucous membranes, blood filling and tension of the walls of the veins, edema on the extremities, weakness of the heartbeat, deafness of the heart tones, bifurcation of the first tone, arrhythmia, pulse of weak filling and small wave, shortness of breath; T - 41.00 S; P – 64; D – 30 were established. Make a diagnosis. Differential diagnosis. What needs to be done to clarify the diagnosis?

4. The cow has an inhibition of the general condition, a decrease in appetite and a decrease in milk yield. The animal stands with its elbows to the side, and groans when getting up or lowering to the ground. In a clinical study, an increase in body temperature (T - 41.00 C), pulse rate (P - 96) and respiration (D - 29) were established. The mucous membranes of the animal are cyanotic, the jugular veins are filled with blood, the venous pulse is positive, the heartbeat is weakened and spilled, swelling of the chest, splashing noise is heard during auscultation of the heart area. Make a diagnosis. Differential diagnosis. Make up therapeutic and preventive measures.

5. In the cow, cyanosis of the visible mucous membranes, significant filling of the jugular veins, positive venous pulse, swelling of the breastbone, weakening of the first tone of the heart and systolic endocardial murmur in the fourth intercostal space on the right were noted. Make a diagnosis. Differential diagnosis.

6. In a workhorse at the age of 12, there were: decreased performance, lethargy, hair dullness, peripheral vascular density, elongation of the first tone and muffling, strengthening of the second tone in the fourth intercostal space on the left; T – 38.60 S; P – 56; D – 18. Make a diagnosis. Differential diagnosis. Prescribe treatment.

7. A three-month-old piglet was kept in a cold barn by a private owner in winter without enough dry bedding. The animal suddenly developed depression, chills, and refusal to feed. In a clinical study, the following was noted: T - 41.20 C; P – 112; D – 34; a sharp painful cough, severe inspiratory shortness of breath, cyanosis of the piglet and ears. Palpation of the larynx causes a sharp convulsive cough. Make a diagnosis. Differential diagnosis. Prescribe treatment.

8. At the end of the stall period, the cow's milk yield decreased, appetite decreased, chewing gum; T – 39.60 S; P – 82; D – 26; DR – 2 in 2 minutes. In a clinical study, they noticed: short and dry cough, mucous discharge from the nose, with auscultation of the chest – large and medium-bubbly wheezes. The number of red blood cells in the blood was 5.9 million / ml, hemoglobin 112 g / l, leukocytes 14.8 thousand / ml; B – 0; E – 1; Yu – 6; P – 12; C – 30; L – 45; M – 6. Make a diagnosis. Differential diagnosis. Prescribe treatment.

9. In February, after recovering from ketosis, a sheep was noted to be weakened and exhausted. For no apparent reason, the animal developed a paroxysmal cough, during which the animal stretches its neck. Breathing is difficult, the sounds of laryngeal stenosis are heard. T – 39.20S; P – 78; D – 38. Make a diagnosis. Uncover the pathogenesis. Prescribe treatment.

10. The calf was kept in a warm and dry room until the age of three months. In November, at a temperature of – 10.00 C, he was transferred to another room located three kilometers from the first one. After 4 days, the animal developed a dry painful cough, difficulty

wheezing, inspiratory shortness of breath, neck stretching. Pressure on the larynx area causes a coughing fit. T – 40.60S; P – 106; D – 28. Make a diagnosis. Differential diagnosis. Prescribe treatment.

11. The horse developed a unilateral mucopurulent discharge from the nose, which increases when the head is lowered. There is soreness on the left side above the upper dental arcade, blunted sound during percussion. The submandibular lymph nodes are enlarged. T – 39.40S; P – 44; D – 16. Make a diagnosis. Make a differential diagnosis. Prescribe treatment.

12. The weakened horse had withers phlegmon, which was treated for two weeks. Suddenly, the animal's general condition worsened, T – 42.20 C; P – 62; D – 30. In a clinical study, shortness of breath, cough, abundant brown-green discharge from the nasal openings, and a fetid smell were found. With auscultation of the lungs – wheezing, hard breathing, with percussion – the presence of areas with a dull and tympanic sound. The mucous membranes are cyanotic, the heart tones are amplified, the jugular veins are swollen. Make a diagnosis. Differential diagnosis. Prescribe treatment.

13. The following clinical signs appeared in calves of one month of age after delivery to the fattening complex from supplier farms: T - 39.8–40.0oS; P - 87-96; D – 32-40; depression, decreased appetite, lethargy cough, serous–mucous discharge from the nose, mixed shortness of breath, with auscultation of the lungs - shallow hard breathing, mixed wheezing, with auscultation of the heart – the emphasis of the second tone on the pulmonary artery, with percussion – foci of bluntness in the anterior areas. Make a preliminary diagnosis. What additional studies should be carried out to clarify the diagnosis. Prescribe treatment.

14. The calf suddenly showed signs of increasing suffocation: progressive shortness of breath, breathing is difficult, the head is elongated, the nostrils are dilated, there is fright in the eyes, during exhalation, a foamy reddish discharge is released from the nasal openings, diffuse wet wheezes are heard during auscultation of the lungs. T – 38.0oS; P – 87; D – 46. Make a diagnosis.

15. The cow suddenly developed shortness of breath, a frightened look, and a cough during which a reddish foamy liquid with clots is ejected from the nasal openings and oral cavity. Bilateral discharge from the nose is also noted in the intervals between coughing attacks. With auscultation of the lungs - wet wheezing, with percussion – the presence of small areas of bluntness. The mucous membranes are anemic, the heartbeat is increased, pounding. T – 39.20S; P – 87; D – 34. Make a diagnosis. Differential diagnosis. Prognosis and treatment.

16. In a cow kept on a leash all year round without exercise, in February, depression, refusal of feed, lethargy were suddenly noted; T – 40.70 S; P – 92; D – 36. Breathing is difficult, shallow, wet wheezing is heard during auscultation, with percussion of the lungs – the presence of areas with tympanic and blunted sound to the right and left below the line of the shoulder blade joint. The mucous membranes are cyanotic, the heartbeat is pounding, the heart tones are deaf, the pulse is low, the swelling of the breast is low. Diagnosis. Differential diagnosis. Forecast. Treatment.

17. The cow suddenly developed anxiety, loss of appetite, frequent chewing movements, discharge of foamy saliva from the oral cavity, shortness of breath, cyanosis of the mucous membranes, increasing scarring. T – 38.20 S; P – 108; D – 36; DR – none. Make a diagnosis.

18. In a clinical study of a cow, it was found: T – 39.50 S; P – 62; D – 18; DR – 3 in 2 minutes, depression, decreased appetite, increased salivation, sluggish and careful chewing, hyperemia of the oral mucosa, its swelling and the presence of ulcers, an increase in submandibular lymph nodes. Diagnosis. Differential diagnosis. Treatment.

19. In October, in the morning, a herd of cows went to the mowed stubble, where there were still many rolls of wheat that had not been harvested. The animals grazed until lunch, after which they drank water from a nearby stream. By evening, many cows refused to feed, they began to moan, worry, and stop

chewing gum, shortness of breath, shallow breathing of the thoracic type, cyanosis of the mucous membranes, increased abdominal volume. T – 37.80 S; P – 96; D – 48; DR – 1-2 in 5 minutes, and some were missing. Make a diagnosis.

20. The breeding bull suddenly has a decreased appetite, chewing gum has disappeared, the general condition is depressed, anxiety is manifested. In a clinical study, the following were established: T – 40.60 S; P – 86; D – 26; DR – 2 in 5 minutes. The animal stands with elbow bumps apart, fibrillar muscle contractions are noted, groans when getting up or lowering to the ground. Make a diagnosis. Conduct additional clinical studies to clarify the diagnosis. Prescribe treatment.

21. During the autumn period, a group of heifers were fed large quantities of sugar beets, potatoes and apples. Suddenly, the animals' appetite decreased, the animals became less active, sluggish, muscle contractions of the anconeus and posterior femoral muscles are noticeable, the nasal mirror is dry, fecal masses of a liquid consistency. T – 39.20 S; P – 90; D – 34; DR – 1-2 in 5 minutes, the pH of the contents of the scar is 5.6. Justify the diagnosis. Make a differential diagnosis. Prescribe treatment and preventive measures.

22. Early in the morning, in the presence of heavy dew, a herd of cows entered a clover field and stayed there for three hours. After that, the animals drank water, and two hours later, many began to worry, looking at their stomachs, fanning their tails, moaning, mooing, and stopping chewing. In a clinical study, cyanosis of the visible mucous membranes, shortness of breath, profuse salivation, an increase in abdominal volume, protrusion of the left hungry fossa, and with percussion – a tympanic sound. T – 38.7-38.0 S; P – 96-128; D – 26-42; DR – 1-2 in 5 minutes, and in some scar movements were not recorded. Make a diagnosis.

23. In a cow whose diet was dominated by straw cutting and poorly cleaned grain waste, and there was no exercise, lethargy, moaning, general depression, lack of appetite, decrease or absence of chewing gum, and excretion of dry feces were suddenly noted. T – 39.50 S; P – 92; D – 26; DR – 2 in 5 minutes, sluggish. Make a diagnosis. What needs to be done to clarify the diagnosis? Differential diagnosis. Prescribe treatment.

24. In fattening steers of 8-9 months of age at the fattening complex, the diet consisted of grass granulated flour, compound feed, silage, pulp, and hay or straw was not given. The animal developed lethargy, gnashing of teeth, decreased and perverted appetite, shortening of chewing gum, diarrhea. T –37.9-38.90 S; P – 75-95; D – 16-22; DR – 1-2 in 2 min. Make a diagnosis. What needs to be done to clarify the diagnosis? Differential diagnosis. Prescribe treatment and develop preventive measures.

3.1.4. APPROXIMATE SUBJECT OF TERM PAPERS

The competence being formed: GPC-1 (GPC-1 ID-1, GPC-1 ID-2, GPC-1 ID-3) – Is able to determine the biological status, normal clinical signs of organs and systems of the animal body.

The competence being formed: GPC-2 (GPC-2 ID-1, GPC-2 ID-2) – Is able to interpret and evaluate in professional activity the influence of natural, socio-economic, genetic and economic factors on the physiological status of the animal body.

The competence being formed: PC-3 (PC-3 ID-1, PC-3 ID-2, PC-3, ID-3, PC-3 ID-4, PC-3 ID-5, PC-3 ID-6, PC-3 ID-7) – To set the diagnose based on the analysis of anamnesis, general, special (instrumental) and laboratory research methods

The competence being formed: PC-5 (PC-5 ID-1, PC-5 ID-2, PC-5 ID-3, PC-5 ID-4, PC-5 ID-5, PC-5 ID-8) – To carry out plan of animal treatment, based on the stated diagnosis and animals individual character ristics, signature of necessary remedies of chemical and biological nature for the treatment, taking into account combination of its pharmacological effect on the animal body.

The competence being formed: PC-6 (PC-6 ID-1, PC-6 ID-2, PC-6 ID-3, PC-6 ID-4, PC-6 ID-6, PC-6 ID-7, PC-6 ID-8) – The selection of the variety of methods of non-drug therapy, including physiotherapy methods for the treatment of animals, carry out therapeutic, including physiotherapy procedures using special equipment in compliance with safety rules.

The competence being formed: PC-10 (PC-10 ID-1, PC-10 ID-2, PC-10 ID-3) – Application of follow-up examinations and studies of animals to assess the effectiveness and safety of the prescribed treatment, detalisation of the animal treatment plan (if necessary) based on the results of the evaluation of the treatment effectiveness.

The competence being formed: PC-15 (PC-15 ID-1, PC-15 ID-2, PC-15 ID-4, PC-15 ID-5) – Management of organizational, technical, zootechnical and veterinary measures for the prevention of non-contagiouse diseases in accordance with the preventive plan, analysis of the effectiveness of measures for the prevention of animal diseases for its improvement.

The competence being formed: PC-17 (PC-17 ID-1, PC-17 ID-2, PC-17 ID-3) – Drawing up a plan for the medical examination of animals, taking into account its husbandry type, veteri nary examinations in order to preserve the health of animals and increase its productivity, development of recommendations for preventive and treatment measures, based on the results of animal study, conducted as part of the veterinary examination.

1. Medical examination of cows, heifers, breeding bulls, young animals, fattening cattle, sheep, horses, sows and boars;
2. The use of artificial sources of UV rays in pig farming;
3. Aerosol therapy for lung diseases of calves, piglets, lambs and other animals;
4. Diagnosis and prevention of traumatic pericarditis in cattle;
5. Etiology, diagnosis and prevention of myocardiodystrophy in cows, horses;
6. Etiology, diagnosis, treatment and prevention of pulmonary emphysema in horses;
7. Etiology, diagnosis, treatment and prevention of hypotension and atony of the pancreas in cattle;
8. Etiology, diagnosis, treatment and prevention of rumen acidosis in cows (bulls, sheep);
9. Diagnosis, treatment and prevention of feed injuries in cows (bulls);
10. Etiology, diagnosis, treatment and prevention of scar tympanum;
11. Diagnosis, treatment and prevention of gastric ulcer in pigs in conditions of intensive technology;
12. Gastroenterocolitis in weaning piglets and ways of its prevention;
13. The use of UV-irradiated blood from new-bodied cows, heifers for the prevention of bronchopneumonia of calves;
14. Comparative methods of treatment of gastrointestinal diseases of horses with colic syndrome;
15. Etiology, diagnosis and prevention of liver abscesses in fattening bulls;
16. Etiology, treatment and prevention of hyperthermia in animals;
17. Etiology, diagnosis and prevention of stress in animals;
18. Diagnosis, treatment and prevention of salt poisoning in pigs;
19. Diagnosis, prevention and treatment of urea poisoning;
20. Diagnosis, prevention, treatment of poisoning with nitrates and nitrites;
21. Diagnosis, treatment and prevention of cotton meal poisoning;
22. Etiology, treatment and prevention of ketosis in cows, sheep;
23. Etiology, treatment and prevention of alimentary osteodystrophy in heifers;
24. Etiology, treatment and prevention of secondary osteodystrophy in cows;
25. Diagnosis, treatment and prevention of hypoglycemia in piglets;
26. Etiology, diagnosis, treatment and prevention of acidosis and rumen alkalosis in cows (sheep);
27. Diagnosis, prevention and treatment of polymicroelementoses in cattle, sheep, pigs;

28. Etiology, diagnosis and prevention of fluorosis and caries;
29. Etiology, diagnosis, treatment and prevention of hypovitaminosis in animals;
30. Etiology, treatment and prevention of pasture tetany in cows;
31. Etiology, diagnosis, treatment and prevention of hypothyroidism (endemic goiter);
32. Etiology, diagnosis, prevention of hypovitaminosis in birds;
33. Etiology, diagnosis and prevention of uric acid diathesis in birds;
34. Etiology, diagnosis, treatment and prevention of fatty hepatosis in fur-bearing animals;
35. Etiology, diagnosis, prevention and treatment of group B hypovitaminosis in fur-bearing animals.
36. Acute catarrhal bronchopneumonia.
37. Myocarditis;
38. Hypotension of the pancreas;
39. Traumatic reticuloperitonitis;
40. The blockage of the book;
41. Acute enlargement of the stomach, etc.

3.1.5. TOPICS FOR THE PERFORMANCE OF CONTROL WORK

The competence being formed: GPC-1 (GPC-1 ID-1, GPC-1 ID-2, GPC-1 ID-3) – Is able to determine the biological status, normal clinical signs of organs and systems of the animal body.

The competence being formed: GPC-2 (GPC-2 ID-1, GPC-2 ID-2) – Is able to interpret and evaluate in professional activity the influence of natural, socio-economic, genetic and economic factors on the physiological status of the animal body.

The competence being formed: PC-3 (PC-3 ID-1, PC-3 ID-2, PC-3, ID-3, PC-3 ID-4, PC-3 ID-5, PC-3 ID-6, PC-3 ID-7) – To set the diagnose based on the analysis of anamnesis, general, special (instrumental) and laboratory research methods

The competence being formed: PC-5 (PC-5 ID-1, PC-5 ID-2, PC-5 ID-3, PC-5 ID-4, PC-5 ID-5, PC-5 ID-8) – To carry out plan of animal treatment, based on the stated diagnosis and animals individual character ristics, signature of necessary remedies of chemical and biological nature for the treatment, taking into account combination of its pharmacological effect on the animal body.

The competence being formed: PC-6 (PC-6 ID-1, PC-6 ID-2, PC-6 ID-3, PC-6 ID-4, PC-6 ID-6, PC-6 ID-7, PC-6 ID-8) – The selection of the variety of methods of non-drug therapy, including physiotherapy methods for the treatment of animals, carry out therapeutic, including physiotherapy procedures using special equipment in compliance with safety rules.

The competence being formed: PC-10 (PC-10 ID-1, PC-10 ID-2, PC-10 ID-3) – Application of follow-up examinations and studies of animals to assess the effectiveness and safety of the prescribed treatment, detalisation of the animal treatment plan (if necessary) based on the results of the evaluation of the treatment effectiveness.

The competence being formed: PC-15 (PC-15 ID-1, PC-15 ID-2, PC-15 ID-4, PC-15 ID-5) – Management of organizational, technical, zootechnical and veterinary measures for the prevention of non-contagiouse diseases in accordance with the preventive plan, analysis of the effectiveness of measures for the prevention of animal diseases for its improvement.

The competence being formed: PC-17 (PC-17 ID-1, PC-17 ID-2, PC-17 ID-3) – Drawing up a plan for the medical examination of animals, taking into account its husbandry type, veteri nary examinations in order to preserve the health of animals and increase its productivity, development of recommendations for preventive and treatment measures, based on the results of animal study, conducted as part of the veterinary examination.

1. The essence of the preventive principle of modern veterinary medicine and its role. Characteristics of the physiological, complex and active principles of modern veterinary therapy.

2. Planning of preventive and curative measures on dairy farms. The main preventive measures

in dispensaries and calf houses for newborn calves.

3. Features of prevention and group therapy

in specialized farms for fattening cattle and rearing heifers.

4. Definition of the concept of "animal medical examination". The differences between medical examinations and veterinary examinations and current animal examinations. Clinical indicators that must be taken into account during medical examination. Laboratory tests that must be taken into account during the medical examination of cattle, pigs and horses.

5. Examples of etiotropic therapy for internal non-communicable diseases. To define pathogenetic therapy and its main historical stages of use in veterinary medicine.

6. To substantiate the need for widespread use of diet therapy and give examples of its use in diseases of adult animals and young animals.

7. The mechanism of action of visible light and infrared rays on the animal's body. Sources of visible light and infrared rays used in animal husbandry for preventive and curative purposes. Indications contraindications to the use of infrared rays.

8. Biological effect of ultraviolet rays. Artificial sources of UV rays, methods and doses of their use with therapeutic

and preventive purposes. The influence of sunlight and climatic factors on the effectiveness of treatment and prevention of animal diseases. Indications and contraindications for the use of UV rays.

9. Electric current used in electroplating and electrophoresis,

its physiological effect. Methods of

electroplating and electrophoresis. Indications and contraindications for the use of galvanization. Advantages of electrophoresis.

10. The use of pulsed currents of low frequency and voltage of direct and alternating directions, in electrotherapy. Equipment used for pulse and alternating current electrotherapy and its purpose. The mechanism of action of electrical stimulation, indications and contraindications.

11. Inductotherapy, physiological effect, method of application, indications and contraindications. Darsonvalization, its physiological effect, method of application, indications and contraindications.

12. The mechanism of heat generation in tissues during UHF therapy, the methodology of procedures. The effect of UHF therapy on various systems

in the body, indications and contraindications. Microwave (microwave) therapy, methods of application, indications and contraindications.

13. Aeroionotherapy, physiological effect, method of application, indications and contraindications. Basic safety regulations for light and electrotherapy. Ultrasound therapy, biological and therapeutic effects, methods of application, indications and contraindications. Active walks of active cows, their significance.

14. Basic animal fixation techniques and safety precautions.

15. Technique of subcutaneous, intravenous, intramuscular and intraperitoneal injection. Scar puncture technique and injection of medicinal solutions into the skin.

16. Mouth-gastric probes and gastric and scar sensing techniques. Methods of introduction of magnetic probes and rings.

17. Types of macroclysms and the procedure for their implementation. Catheterization and types of catheters used in veterinary medicine. Catheterization technique and bladder lavage.

18. Prevalence and classification of diseases of the cardiovascular system. Etiology of pericarditis, principles of diagnosis and prevention of diseases.

19. Classification of myocardial diseases. Etiology, symptoms, diagnosis, treatment and prevention of myocarditis and myocardosis.

20. Etiopathogenesis of endocarditis, symptoms, diagnosis and principles of treatment. 21. Classification of heart defects, principles of diagnosis. Etiology, pathogenesis and differential diagnosis of simple heart defects. Principles of therapy and prevention of acquired heart defects.

22. Etiopathogenesis of arteriosclerosis, symptoms and differential diagnosis. Principles of treatment and prevention of atherosclerosis.

23. Etiopathogenesis of vascular thrombosis. Symptoms, differential diagnosis, therapy and prevention. Prevention of heart and vascular diseases in animals.

24. Prevalence and classification of diseases of the respiratory system. The leading external and internal etiological factors, attack the main symptoms of diseases.

25. The main symptoms of laryngitis, rhinitis, differential diagnosis and treatment. Classification and diagnosis of bronchitis. Make a comprehensive treatment plan.

26. Diagnosis and provision of emergency medical care for animals with pulmonary edema and hyperemia. Classification of pneumonia.

27. Etiopathogenesis of croup pneumonia. The main

symptoms, its differentiation from bronchopneumonia and bronchitis.

Treatment and prevention of the disease.

28. Etiological factors of bronchopneumonia in young animals. The difference in the pathogenesis of the pathological picture in bronchopneumonia and croup pneumonia. The plan and methods of treatment for bronchopneumonia.

29. Classification and diagnosis of emphysema, treatment

and prevention. Differential diagnosis of pleurisy and pneumonia, treatment of patients with pleurisy.

30. Classification and main symptoms of pneumothorax. Emergency therapy and prevention methods. Make a plan of general preventive measures against respiratory diseases in the livestock complex.

3.2. Standard tasks for intermediate certification

3.2.1. LIST OF QUESTIONS FOR THE TEST

The competence being formed: GPC-1 (GPC-1 ID-1, GPC-1 ID-2, GPC-1 ID-3) – Is able to determine the biological status, normal clinical signs of organs and systems of the animal body.

The competence being formed: GPC-2 (GPC-2 ID-1, GPC-2 ID-2) – Is able to interpret and evaluate in professional activity the influence of natural, socio-economic, genetic and economic factors on the physiological status of the animal body.

The competence being formed: PC-3 (PC-3 ID-1, PC-3 ID-2, PC-3, ID-3, PC-3 ID-4, PC-3 ID-5, PC-3 ID-6, PC-3 ID-7) – To set the diagnose based on the analysis of anamnesis, general, special (instrumental) and laboratory research methods

The competence being formed: PC-5 (PC-5 ID-1, PC-5 ID-2, PC-5 ID-3, PC-5 ID-4, PC-5 ID-5, PC-5 ID-8) – To carry out plan of animal treatment, based on the stated diagnosis and animals individual character ristics, signature of necessary remedies of chemical and biological nature for the treatment, taking into account combination of its pharmacological effect on the animal body.

The competence being formed: PC-6 (PC-6 ID-1, PC-6 ID-2, PC-6 ID-3, PC-6 ID-4, PC-6 ID-6, PC-6 ID-7, PC-6 ID-8) – The selection of the variety of methods of non-drug therapy, including physiotherapy methods for the treatment of animals, carry out therapeutic, including physiotherapy procedures using special equipment in compliance with safety rules.

The competence being formed: PC-10 (PC-10 ID-1, PC-10 ID-2, PC-10 ID-3) – Application of follow-up examinations and studies of animals to assess the effectiveness and safety of the prescribed treatment, detalisation of the animal treatment plan (if necessary) based on the results of the evaluation of the treatment effectiveness.

The competence being formed: PC-15 (PC-15 ID-1, PC-15 ID-2, PC-15 ID-4, PC-15 ID-5) – Management of organizational, technical, zootechnical and veterinary measures for the prevention of non-contagiouse diseases in accordance with the preventive plan, analysis of the effectiveness of measures for the prevention of animal diseases for its improvement.

The competence being formed: PC-17 (PC-17 ID-1, PC-17 ID-2, PC-17 ID-3) – Drawing up a plan for the medical examination of animals, taking into account its husbandry type, veteri nary examinations in order to preserve the health of animals and increase its productivity, development of recommendations for preventive and treatment measures, based on the results of animal study, conducted as part of the veterinary examination.

1. Medical examination is the basis for the prevention of internal non–infectious animal diseases.
2. Principles of veterinary therapy.
3. Means and methods of veterinary therapy.
4. Preventive and therapeutic measures in specialized livestock farms (LPH, KFH, SEC, etc.).
5. Physioprophylaxis and physiotherapy for diseases of organs and systems.
6. Phototherapy (light therapy).
7. Electrotherapy.
8. Ultrasound therapy.
9. Aeroionotherapy.
10. Mechanotherapy.
11. Hydrotherapy.
12. Hydrotherapy procedures (bathing, washing, dousing, showering, baths).
13. Diseases of the cardiovascular system (anatomical and physiological features, classification and syndromes).
14. Pericarditis.
15. Dropsy of the cardiac sac.
16. Myocarditis.
17. Myocardial infarction.
18. Endocarditis.
19. Heart defects.
20. Heart failure.
21. Atherosclerosis.
22. Vascular thrombosis.
23. Vascular insufficiency.
24. Diseases of the respiratory system (anatomical and physiological features, classification and syndromes).
25. Rhinitis.
26. Laryngitis.
27. Laryngeal edema.
28. Bronchitis.
29. Hyperemia and pulmonary edema.
30. Pneumonia.
31. Emphysema of the lungs.
32. Pleurisy.
33. Hydrothorax.
34. Pneumothorax.
35. Diseases of the digestive system (anatomical and physiological features, classification and syndromes).
36. Stomatitis.
37. Pharyngitis.
38. Inflammation of the esophagus.
39. Blockage of the esophagus.

40. Hypotension and atony of the pancreas.
41. Acidosis and alkalosis of the scar.
42. Parakeratosis of the scar.
43. Overflow of the scar.
44. Tympania of the scar.
45. Traumatic reticulitis.
46. The blockage of the book.
47. Inflammation and displacement of the abomasum.
48. Gastritis.
49. Peptic ulcer disease.
50. Gastroenteritis.
51. Enterocolitis.
52. Diseases of the stomach and intestines with colic phenomena in horses (anatomical and physiological features, classification and syndromes).
53. Mechanical forms of colic.
54. Paralytic forms of colic.
55. Hemostatic forms of colic.
56. Spastic forms of colic.
57. The general scheme of therapy for diseases of the stomach and intestines with colic in horses.
58. Diseases of the liver and biliary tract (anatomical and physiological features, classification and syndromes).
59. Hepatitis.
60. Hepatosis.
61. Cirrhosis of the liver.
62. Liver abscess.
63. Cholecystitis and cholangitis.
64. Cholelithiasis.
65. Diseases of the peritoneum.
66. Peritonitis and ascites.
67. Diseases of the urinary system (anatomical and physiological features, classification and syndromes).
68. Jade.
69. Pyelonephritis.
70. Nephrosis.
71. Nephrosclerosis.
72. Kidney failure.
73. Pyelitis.
74. Urolithiasis.
75. Urocystitis.
76. Paresis, paralysis and bladder spasm.
77. Diseases of the blood system (anatomical and physiological features, classification and syndromes).
78. Anemia.
79. Hemophilia.
80. Thrombocytopenia.
81. Blood-stained disease.
82. Diseases of the immune system (anatomical and physiological features, classification and syndromes).
83. Immune deficiencies.
84. Autoimmune diseases.
85. Allergic diseases.

86. Hyperimmune and proliferative diseases.
87. Diseases of the nervous system (anatomical and physiological features, classification and syndromes).
88. Solar and thermal shocks.
89. Anemia and hyperemia of the brain.
90. Inflammation of the brain and its membranes.
91. Inflammation of the spinal cord and its membranes.
92. Stress.
93. Neuroses.
94. Epilepsy.
95. Eclampsia.
96. Metabolic diseases (anatomical and physiological features, classification and syndromes).
97. Obesity.
98. Ketosis.
99. Alimentary dystrophy.
100. Hypovitaminosis.
101. A-hypovitaminosis.
102. Hypovitaminoses of group B (B1, B2, B5, B6, B12).
103. D-hypovitaminoses.
104. E-hypovitaminoses.
105. C-hypovitaminoses.
106. Trace elements.
107. Cobalt deficiency.
108. Manganese deficiency.
109. Fluorine deficiency and excess.
110. Excess boron ("boric enteritis").
111. Excess molybdenum.
112. Excess nickel.
113. Diseases of the endocrine organs (anatomical and physiological features, classification and syndromes).
114. Diseases of the hypothalamus and pituitary gland.
115. Diseases of the pancreas.
116. Diseases of the thyroid gland.
117. Diseases of the parathyroid glands.

3.2.2. LIST OF EXAM QUESTIONS

The competence being formed: GPC-1 (GPC-1 ID-1, GPC-1 ID-2, GPC-1 ID-3) – Is able to determine the biological status, normal clinical signs of organs and systems of the animal body.

The competence being formed: GPC-2 (GPC-2 ID-1, GPC-2 ID-2) – Is able to interpret and evaluate in professional activity the influence of natural, socio-economic, genetic and economic factors on the physiological status of the animal body.

The competence being formed: PC-3 (PC-3 ID-1, PC-3 ID-2, PC-3, ID-3, PC-3 ID-4, PC-3 ID-5, PC-3 ID-6, PC-3 ID-7) – To set the diagnose based on the analysis of anamnesis, general, special (instrumental) and laboratory research methods

The competence being formed: PC-5 (PC-5 ID-1, PC-5 ID-2, PC-5 ID-3, PC-5 ID-4, PC-5 ID-5, PC-5 ID-8) – To carry out plan of animal treatment, based on the stated diagnosis and animals individual character ristics, signature of necessary remedies of chemical and biological nature for the treatment, taking into account combination of its pharmacological effect on the animal body.

The competence being formed: PC-6 (PC-6 ID-1, PC-6 ID-2, PC-6 ID-3, PC-6 ID-4, PC-6 ID-6, PC-6 ID-7, PC-6 ID-8) – The selection of the variety of methods of non-drug

therapy, including physiotherapy methods for the treatment of animals, carry out therapeutic, including physiotherapy procedures using special equipment in compliance with safety rules.

The competence being formed: PC-10 (PC-10 ID-1, PC-10 ID-2, PC-10 ID-3) – Application of follow-up examinations and studies of animals to assess the effectiveness and safety of the prescribed treatment, detalisation of the animal treatment plan (if necessary) based on the results of the evaluation of the treatment effectiveness.

The competence being formed: PC-15 (PC-15 ID-1, PC-15 ID-2, PC-15 ID-4, PC-15 ID-5) – Management of organizational, technical, zootechnical and veterinary measures for the prevention of non-contagiouse diseases in accordance with the preventive plan, analysis of the effectiveness of measures for the prevention of animal diseases for its improvement.

The competence being formed: PC-17 (PC-17 ID-1, PC-17 ID-2, PC-17 ID-3) – Drawing up a plan for the medical examination of animals, taking into account its husbandry type, veteri nary examinations in order to preserve the health of animals and increase its productivity, development of recommendations for preventive and treatment measures, based on the results of animal study, conducted as part of the veterinary examination.

For the 4th year.

1. What is the damage caused by internal non-infectious animal diseases?
2. General prevention of non-communicable animal diseases.
3. Principles of therapy.
4. Etiotropic therapy.
5. Pathogenetic therapy.
6. Substitution therapy.
7. Medical examination of animals.
8. Stomatitis, pharyngitis.
9. Diseases of the esophagus.
10. Gastroenteritis.
11. Peptic ulcer disease.
12. Hypotension and atony of the pancreas.
13. Tympania of the scar.
14. Overflow.
15. Scar paresis.
16. Differential diagnosis of tympania and scar overflow.
17. Rumen acidosis and rumen alkalosis.
18. Traumatic reticulitis.
19. Blockage of the book.
20. Principles of treatment of animals with colic.
21. Acute enlargement of the stomach.
22. Enteralgia of the intestine.
23. Intestinal flatulence (windy colic).
24. Obturation ileus.
25. Chemostasis
26. Coprostasis.
27. Strangulation ileus.
28. Thromboembolic colic.
29. Sand colic.
30. Catarrhal inflammatory colic.
31. Rhinitis, sinusitis, frontitis.
32. Laryngitis.
33. Bronchitis.
34. Bronchopneumonia.

35. Purulent pneumonia.
36. Aspiration pneumonia.
37. Croup pneumonia.
38. Differential diagnosis of catarrhal and croup pneumonia.
39. Emphysema of the lungs.
40. Myocarditis.
41. Myocardial infarction.
42. Pericarditis.
43. Endocarditis.
44. Heart defects. Classification, the essence of their compensation and decompensation.
45. Differential diagnosis of myocarditis and myocardosis.
46. Classification and syndromes of liver diseases.
47. Jaundice and its diagnostic significance.
48. Hepatitis.
49. Hepatosis.
50. Cirrhosis of the liver.
51. Differential diagnosis of liver diseases.
52. Parakeratosis of piglets.
53. Bezoar disease in calves and lambs.
54. Periodic scarring in calves.
55. Dyspepsia. Etiology, pathogenesis, symptoms, treatment and prevention.
56. Hypovitaminosis A.
57. Toxic liver dystrophy in piglets.
58. White muscle disease.
59. Iron deficiency anemia in piglets.
60. Enzootic ataxia of lambs.
61. Rickets.
62. Bronchopneumonia in young animals in livestock complexes.
63. Physical methods of animal treatment.
64. Expectorants.
65. Antispasmodic therapy.
66. Novocaine therapy.
67. Laxatives.
68. Rumination products.
69. Dietary therapy for internal non-communicable diseases.
70. The technique of introducing a gastric tube to a horse.
71. The technique of rinsing the scar in cattle.

For the 5th year.

1. Principles of veterinary therapy.
2. Medical examination and its importance in the creation of highly productive herds.
3. Diseases of the esophagus.
4. Means and methods of veterinary therapy.
5. Methods of administration of medicines.
6. Classification of diseases of the digestive system.
7. Esophageal blockage, diagnosis, methods of its prevention and therapy of sick animals.
8. Dystonia of the pancreas.
9. Tympania of the scar.
10. Acidosis, alkalosis of the scar.
11. Parakeratosis of the scar.
12. Blockage of the book.

13. Traumatic reticulitis.
14. Gastroenteritis.
15. Diseases of the upper respiratory tract.
16. Bronchopneumonia.
17. Croup pneumonia.
18. Bronchopneumonia and the peculiarities of its manifestation in young animals in livestock complexes. The influence of zoohygienic conditions of detention on its occurrence and course.
19. Pleurisy.
20. Alveolar emphysema of the lungs.
21. Endocarditis.
22. Pericarditis.
23. Myocarditis.
24. Myocardial infarction.
25. Shock and collapse.
26. Hyperemia and pulmonary edema.
27. Liver function. Classification of diseases.
28. Liver disease syndromes.
29. Hepatitis.
30. Hepatosis.
31. Cirrhosis of the liver.
32. Jaundice, its clinical manifestation and diagnostic significance.
33. Diseases of the biliary tract.
34. Classification of diseases with a symptom complex of colic.
35. Principles of treatment of animals with colic.
36. Catarrhal-inflammatory colic.
37. Enteralgia of the intestine.
38. Acute enlargement of the stomach.
39. Intestinal tympania (windy colic).
40. Obturation ileus.
41. Strangulation ileus.
42. Thromboembolic colic.
43. Chemostasis (paralytic ileus in horses).
44. Coprostasis (paralytic ileus in horses).
45. Dyspepsia of newborns.
46. Alimentary anemia of young animals.
47. White muscle disease in young agricultural animals.
48. Parakeratosis of piglets.
49. Syndromes of kidney diseases.
50. Jade.
51. Pyelonephritis.
52. Nephrosis.
53. Nephrosclerosis.
54. Urolithiasis.
55. Paresis and paralysis of the bladder. Bladder spasm.
56. Urocystitis.
57. Chronic hematuria of cattle.
58. Ketosis of cattle.
59. During medical examination, acetone bodies were found in the urine of cows. Make a presumptive diagnosis, prescribe treatment.
60. Alimentary osteodystrophy in cows.
61. Myoglobinuria of horses.

62. Grazing tetany in cattle.
63. Fluoride deficiency.
64. Endemic goiter.
65. Hypocobaltosis.
66. Manganese deficiency in animals.
67. Blood diseases. Classification. Syndromatics.
68. Posthemorrhagic anemia.
69. Hemolytic anemia.
70. Hypoplastic and aplastic anemia.
71. Hemorrhagic diathesis.
72. Drug allergy.
73. Food allergy.
74. Poisoning. Classification. Syndromes.
75. General methods of providing medical care for poisoning.
76. Poisoning with table salt.
77. Solanine poisoning.
78. Poisoning with nitrates and nitrites.
79. Urea poisoning.
80. Sugar beet poisoning.
81. Feed mycotoxicoses.
82. Poisoning with salts of heavy metals.
83. Classification of diseases of the nervous system and their syndromatics.
84. Heat stroke. The influence of zoohygienic conditions on its occurrence and course.
85. Inflammation of the brain and its membranes.
86. Inflammation of the spinal cord and its membranes.
87. Sunstroke.
88. Stress. Pathogenesis, diagnosis, prevention.
89. Hypovitaminoses A, C and their role in the occurrence of diseases of young animals.
90. Hypovitaminoses D, E and their role in the occurrence of diseases of young animals.

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

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

Criteria for evaluating the performance of the control work:

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

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

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

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

Criteria for evaluating students' knowledge during testing:

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

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

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

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

Criteria for evaluating the colloquium:

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

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

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

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

Criteria for evaluating the completion of the course work:

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

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

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

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

Criteria for evaluating answers to test questions:

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

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

Criteria for evaluating answers to exam questions:

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

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

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

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

Criteria for evaluating the performance of situational tasks:

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

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

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

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

5. ACCESSIBILITY AND QUALITY OF EDUCATION FOR DISABLED PEOPLE

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

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

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

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

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

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

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

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

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

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