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 Genetic and Reproductive Biotechnologies

EDUCATIONAL WORK PROGRAM
for the discipline

"OBSTETRICS AND GYNECOLOGY"

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
June 27, 2025
Protocol No. 9

Head of the Department of Genetic and Reproductive Biotechnologies
Professor, Doctor of Veterinary Sciences,
Corresponding Member of the Russian Academy of Sciences
_____ Plemyashov K.V.

Saint Petersburg
2025

1. AIMS AND OBJECTIVES OF THE DISCIPLINE

The purpose of the discipline in the training of veterinarians is to give students fundamental knowledge of basic physiological and pathological processes of the reproductive system occurring in the body and reproductive organs during: insemination, fertilization, pregnancy, parturition and the postpartum period; diseases of the genital organs and mammary gland, as well as the prevention of infertility and diseases of newborn animals; of biotechnological approaches to animal reproduction - artificial insemination, embryo (zygote) transplantation; of applications of biologically active substances that regulate and restore the function of the genitals, considering environmental and technological processes in animal reproduction.

According to the purpose, the main **objectives** of the discipline are:

а) The general educational objective is to in-depth familiarize students with the anatomy and physiology of the reproductive system of animals, which provides which provides fundamental biological knowledge in accordance with the requirements for higher education institutions of biological sciences.

б) The applied objective covers such issues as: organization and methods of animals insemination; pregnancy and labour management; obstetric care; prevention and treatment of gynecological diseases in females, considering traits of the biological species.

в) The special objective is to possess skills of medical care and prevention of various obstetric and gynecological diseases, as well as biotechnology methods for improvement of reproduction quality in the herd.

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 practice, in accordance with Federal State Educational Standard of Higher Education 36.05.01 «Veterinary medicine».

The field of professional activity:

13 Agriculture

The student's competencies, formed as a result of mastering the course.

The purpose of studying the discipline is also to participate in the formation of the following **competencies**:

А) General professional competencies:

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.

Б) Professional competencies:

Type of professional tasks: medical

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 methods and techniques of non-drug manipulations for the animal.

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 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-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, 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.

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

Course B1.O.31 «Obstetrics and gynecology» is discipline of the Block 1 basic part of Federal State Educational Standard of Higher Education in specialty 36.05.01 «Veterinary medicine» (level of higher education – specialist).

The course is mastered during 7th and 8th semesters for full-time mode of study.

When studying «Obstetrics and Gynecology» course, the students use knowledge and skills acquired in such disciplines as animal anatomy, histology, physiology, pathophysiology, clinical diagnostics, laboratory diagnostics, instrumental diagnostics, pharmacology, veterinary hygiene, animal feeding with the basics of feed production, breeding, microbiology and virology.

The course is the basis for such disciplines as:

1. Veterinary Management
2. General and private surgery
3. Parasitology
4. Veterinary toxicology
5. Neurology
6. Radiology
7. Epizootology and infectious diseases
8. Forensic veterinary medicine
9. Pharmacognosy
10. Internal animal diseases

4. THE SCOPE OF DISCIPLINE AND TYPES OF ACADEMIC WORK

4.1. Workload of «Obstetrics and gynecology» course for full-time mode of study

Forms of work	**Academic hours, total**	**Semesters**	
		7	**8**
Classroom work (total), including	**148**	**68**	**80**
Lectures	66	34	32
Practical lesson (PL), including interactive forms, among which are:	82	34	48
Practical training (PT)	18	8	10
Student's individual work (total)	**176**	**76**	**100**
Term paper	**+**	**-**	**+**
Type of intermediate and final certification (test, exam)	**Test– 1 Exam -1**	**Test**	**Exam**
Total labor intensity hours/credits	**324/9**	**144/4**	**180/5**

5. CONTENT OF «OBSTETRICS AND GYNECOLOGY» COURSE

5.1. Content of «Obstetrics and Gynecology» course for full-time education

№	Title	Formed competencies	Semester	Forms of work including student's individual work and workload (in hours)			
				L	PL	PT	IW
1.	Introduction. Requirements for writing a term paper. Safety precautions. History of the department.	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 PC-3 To set the diagnose based on the analysis of anamnesis, general, special (instrumental) and laboratory research methods PC-3 ID-3 To possess skills to document the results of clinical animal studies, using digital technologies	7	2	2		4
2.	Species-specific features of the anatomy and topography of the female genital organs. Uterine shape in mammals.	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-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.	7	2	2		4

3.	Placenta. Types of placenta. Fetal membranes.	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-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	7	2	2		4
4.	Puberty in domestic animals (physiological and economic). Oestrous cycle. Classification. Phases.	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-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	7	2	2		4
5.	Hormonal regulation of the oestrous cycle.	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	7	3	1		5

		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 PC-3 To set the diagnose based on the analysis of anamnesis, general, special (instrumental) and laboratory research methods 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-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					
6.	Artificial insemination. Sperm collection methods.	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 PC-3 To set the diagnose based on the analysis of anamnesis, general, special (instrumental) and laboratory research methods 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	7	2	2		5

		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-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					
7.	Preparation of artificial vagina.	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	7	2	2		5
8.	Physiology and biochemistry of sperm.	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 PC-3 To set the diagnose based on the analysis of anamnesis, general, special (instrumental) and laboratory research methods 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	7	2	2		5
9.	Evaluation of sperm by density and motility	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 PC-3 To set the diagnose based on the analysis of anamnesis, general, special (instrumental) and laboratory research methods PC-3 ID-3 To possess skills to document the results of clinical animal studies, using digital technologies	7	2	1	2	5

		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					
10.	Sperm concentration measurement using counting chamber	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 PC-3 To set the diagnose based on the analysis of anamnesis, general, special (instrumental) and laboratory research methods 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	3	1	2	5
11.	Sperm cell livability. Pathological forms of spermatozoa. Spermatozoa respiration and resistance.	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 PC-3 To set the diagnose based on the analysis of anamnesis, general, special (instrumental) and laboratory research methods 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	2	2	5

		PC-3 ID-7 To know the generally accepted criteria and classifications of animal diseases, approved lists of animals disease					
12.	Handling, dilution and storage of semen Cryopreservation. Cryoprotectants handling and storage of semen.	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 PC-3 To set the diagnose based on the analysis of anamnesis, general, special (instrumental) and laboratory research methods 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	2	5
14.	Modes of sires use.	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 PC-3 To set the diagnose based on the analysis of anamnesis, general, special (instrumental) and laboratory research methods	7	2	2		5
15.	Male sexual reflexes. Inhibition of sexual reflexes in male.	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 PC-3 To set the diagnose based on the analysis of anamnesis, general, special (instrumental) and laboratory research methods PC-3 ID-3 To possess skills to document the results of clinical animal studies, using digital technologies	7	2	1		5

		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					
16.	Preparation of females for insemination. Types of natural insemination.	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 PC-3 To set the diagnose based on the analysis of anamnesis, general, special (instrumental) and laboratory research methods 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-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-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	7	2	1		5
17.	Artificial insemination of dams.	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 PC-3 To set the diagnose based on the analysis of anamnesis, general, special (instrumental) and laboratory research methods	7	2	1		5

		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-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-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					
TOTAL FOR 7 SEMESTER				**34**	**26**	**8**	**76**
18.	Pregnancy. Fetal presentation, positiom and posture. Modern methods of pregnancy detection.	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 diseasesПК-3$_{ИД-4}$ Знать методики интерпретации и анализа данных специальных (инструментальных) методов исследования животных 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-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-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.	8	2	3	2	6

		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					
19.	Diseases of pregnancy in animals.	PC-3 To set the diagnose based on the analysis of anamnesis, general, special (instrumental) and laboratory research methods PC-3 ID-1 To possess skills to make a diagnosis in accordance with generally accepted criteria and classifications, lists of animal diseases PC-3 ID-2 To possess skills to use specialized information databases for the diagnosis of animal diseases PC-3 ID-3 To possess skills to document the results of clinical animal studies, using digital technologies PC-3 ID-4 To know the methods of interpretation and data analysis of special (instrumental) methods of animal examination PC-3 ID-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-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	8	2	3		6

		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					
20.	Parturition and the care of parturient animals. The puerperium.	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 diseasesПК-3ИД-4 Знать методики интерпретации и анализа данных специальных (инструментальных) методов исследования животных 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-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-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	2	3		6
21.	Dystocia in animals and its management. Causes of dystocia.	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	8	2	3	2	6

		PC-3 To set the diagnose based on the analysis of anamnesis, general, special (instrumental) and laboratory research methods 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-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-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					
22.	Gynecological and obstetrics instruments. Fetotomy. Modern special methods for the diagnosis of obstetric pathologies.	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-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 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-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	8	2	3	2	6

		accordance with methodological guidelines, instructions, manuals, rules for the diagnosis, prevention and treatment of animals					
23.	Inflammatory diseases incidental to postpartum. Etiology, pathogenesis, differential diagnosis, treatment and prevention. Part 1.	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-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-2 To be able to fix animals to ensure safety during medical procedures 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-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-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	2	3		6
24.	Inflammatory diseases incidental to postpartum. Etiology, pathogenesis, differential diagnosis, treatment and	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-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	8	2	2		6

	prevention. Part 2.	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-2 To be able to fix animals to ensure safety during medical procedures 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-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-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					
25.	Inflammatory diseases incidental to postpartum. Etiology, pathogenesis, differential diagnosis, treatment and prevention. Part 1.	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-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-2 To be able to fix animals to ensure safety during medical procedures 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-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-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	8	2	2		6

		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 treatmentof animals					
26.	Inflammatory diseases incidental to postpartum. Etiology, pathogenesis, differential diagnosis, treatment and prevention. Part 2.	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-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-2 To be able to fix animals to ensure safety during medical procedures 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-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-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	2	2		6
26.	Abortion: etiology, pathogenesis, differential diagnosis, prevention.	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-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	8	2	2		6

		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-2 To be able to fix animals to ensure safety during medical procedures 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-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-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					
27.	Mammary gland diseases. Etiology, pathogenesis, differential diagnosis, treatment and prevention.	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-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-2 To be able to fix animals to ensure safety during medical procedures 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-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-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	8	2	2		6

		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					
28.	Mastitis. Part 1.	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-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-2 To be able to fix animals to ensure safety during medical procedures 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-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-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	2	2		6
29.	Mastitis. Part 2.	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-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	8	2	2		7

		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-2 To be able to fix animals to ensure safety during medical procedures 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-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-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					
30.	Ovaries diseases. Etiology, pathogenesis, differential diagnosis, treatment and prevention.	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-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-2 To be able to fix animals to ensure safety during medical procedures 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-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-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	8	2	2		7

		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					
31.	Infertility. Classification. Principles of differential diagnosis. Veterinary control of herd fertility.	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-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-2 To be able to fix animals to ensure safety during medical procedures 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-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-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	2	2		7
32.	General principles of rectal examination. Biotechnological methods for improvement of	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-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	8	2	2	4	7

	reproduction in herd. Embryo transfer in cattle breeding.	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-2 To be able to fix animals to ensure safety during medical procedures 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-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-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					
TOTAL FOR 8 SEMESTER				**32**	**38**	**10**	**100**
TOTAL FOR COURSE:				**66**	**64**	**18**	**176**

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

6.1. Guidelines for individual work

1.Allen, V.E. Polnyj kurs akusherstva i ginekologii sobak. Per. s anglijskogo. / V.E. Allen // – M., Akvarium, 2002 – 448 s.
2. Dyul'ger, G.P. Akusherstvo, ginekologiya i biotekhnika razmnozheniya koshek / G.P. Dyul'ger // – M., Kolos, 2004 – 101 s.
3. Karpov, V.A. Akusherstvo i ginekologiya melkih domashnih zhivotnyh / V.A. Karpov // – M., Rosagropromizdat, 1990 – 288 s.

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

a) basic literature:

1.Allen, V.E. Polnyj kurs akusherstva i ginekologii sobak. Per. s anglijskogo. / V.E. Allen // – M., Akvarium, 2002 – 448 s.
2. Dyul'ger, G.P. Akusherstvo, ginekologiya i biotekhnika razmnozheniya koshek / G.P. Dyul'ger // – M., Kolos, 2004 – 101 s.

b) additional literature:

1. Karpov, V.A. Akusherstvo i ginekologiya melkih domashnih zhivotnyh / V.A. Karpov // – M., Rosagropromizdat, 1990 – 288 s.

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

To prepare for practical classes and perform independent work, students can use the following Internet resources:

1. https :// meduniver . com – Medical information site.

Electronic library systems:

1. EBS "SPBGU VM"
2. EBS "Student Consultant"
3. Legal reference system "ConsultantPlus"
4. University information system "RUSSIA"
5. Full text database POLPRED.COM
6. Scientific electronic library ELIBRARY.RU
7. Russian Scientific Network
8. Electronic library system IQlib
9. Full-text interdisciplinary database of agricultural and environmental sciences ProQuest AGRICULTURAL AND ENVIRONMENTAL SCIENCE DATABASE
10. Electronic books from the publishing house "Prospekt Nauki" http://prospektnauki.ru/ebooks/
11. Collection "Agriculture. Veterinary" publishing house "Kvadro" http://www.iprbookshop.ru/586.html

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 methodological recommendations, as a rule, may include:

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

The morning time is the most fruitful for academic work (from 8-14 o'clock), followed by the afternoon (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 (10-15 minutes) is required; after 4 hours of work, the break should be 1 hour. Part of the scientific organization of labor is mastering the technique of mental work. Normally, a student should devote about 10 hours a day to studying (6 hours at the university, 4 hours at home).

- Recommendations for preparing for practical classes

Practical (seminar) classes constitute an important part of students' professional training. The main goal of conducting practical (seminar) classes is to develop analytical, creative thinking in students by acquiring practical skills. Practical classes are also conducted with the aim of deepening and consolidating the knowledge gained at lectures and in the process of independent work on regulatory documents, educational and scientific literature. When preparing for a practical lesson for students, it is necessary to study or repeat theoretical material on a given topic.

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

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

2) study the literature sources that were recommended and familiarize yourself with the introductory comments to the relevant sections.

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

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

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

Practical (seminar) classes perform the following tasks:

- stimulate regular study of recommended literature, as well as attentive attention to the lecture course;
- consolidate the knowledge gained in the process of lecture training and independent work on literature;
- expand the scope of professionally significant knowledge, skills and abilities;
- allow you to check the correctness of previously acquired knowledge;
- instill skills of independent thinking and oral presentation;
- promote free use of terminology;
- provide the teacher with the opportunity to systematically monitor the level of students' independent work.

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

• Recommendations for working with literature.

Working with literature is an important stage of a student's independent work in mastering a subject, contributing not only to consolidation of knowledge, but also to broadening his horizons, mental abilities, memory, ability to think, present and confirm his hypotheses and ideas. In addition, research skills necessary for future professional activities are developed.

When starting to study literature on a topic, it is necessary to make notes, extracts, and notes. It is imperative to take notes on the works of theorists, which allow one to comprehend the theoretical basis of the study. For the rest, you can limit yourself to extracts from studied sources. All extracts and quotations must have an exact "return address" (author, title of work, year of publication, page, etc.). It is advisable to write an abbreviated name of the question to which the extract or quotation relates. In addition, it is necessary to learn how to immediately compile a card index of specialized 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, and abstract journals. In this case, publications of sources (articles, book titles, etc.) should be written on separate cards, which must be filled out in accordance with the rules of bibliographic description (surname, initials of the author, title of work. Place of publication, publisher, year of publication, number of pages, and for journals articles – journal name, 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 further 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 contents, structure, what sources it was written on, etc.

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

Testing allows you to determine whether the actual behavior of a program corresponds to the expected behavior 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 being tested or its part. Students are required to select the correct option for each question in the discipline.

11. EDUCATIONAL WORK

Within the framework of the discipline, educational work aims to cultivate a modern scientific worldview and fundamental values, foster spiritual, moral, civil, and patriotic virtues, nurture aesthetic and ethical understanding, promote a tolerant mindset in society, and instill in students the recognition of work as a fundamental necessity, the highest value, and the primary path to success in life. Additionally, it seeks to underscore the social significance of students' future professions.

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

11.1. Information technologies

The educational process in the discipline provides for the use of information technologies:

- ✓ conducting practical classes using multimedia;
- ✓ interactive technologies (conducting dialogues, collective discussion of various approaches to solving a particular educational and professional problem);
- ✓ interaction with students via email;

✓ joint work in the Electronic Information and Educational Environment of St. Petersburg State University of Veterinary Medicine: https://spbguvm.ru/academy/eios

11.2. Software
List of licensed and freely distributed software, including domestically produced ones

№	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.

Name of the discipline	**Name of rooms for classes or independent work**	**Equipment of rooms for classes or independent work**
Obstetrics and gynecology	215 (Saint Petersburg, st. Chernigovskaya, 5, 196084) Classroom for conducting seminars, consultations and course assessment	*Specialized furniture:* desks, chairs, stools, teaching board. *Visual aids and educational materials:* Wet preparations of obstetric and gynecological pathologies of all types of animals, corpses of small animals and limbs of large ungulates with dissected muscles, vessels and nerves, fixed preparations of internal organs of all types of animals by system, skeletons of all domestic animals; demonstration tables, diagrams and x-rays on all topics of lectures, laboratory and seminars; instruments for obtaining sperm and artificial insemination of animals, obstetric instruments (knives, tweezers, scalpels, scissors of all types, instruments for fetotomy and obstetrics), models; posters on the sections of obstetrics and gynecology, *Technical teaching aids:* multimedia projector, screen, laptop; microscopes.

	221 (Saint Petersburg, st. Chernigovskaya, 5, 196084) Classroom for conducting seminars, consultations and course assessment	*Specialized furniture:* desks, chairs, stools, teaching board. *Visual aids and educational materials:* Wet preparations of obstetric and gynecological pathologies of all types of animals, corpses of small animals and limbs of large ungulates with dissected muscles, vessels and nerves, fixed preparations of internal organs of all types of animals by system, skeletons of all domestic animals; demonstration tables, diagrams and x-rays on all topics of lectures, laboratory and seminars; instruments for obtaining sperm and artificial insemination of animals, obstetric instruments (knives, tweezers, scalpels, scissors of all types, instruments for fetotomy and obstetrics), models; posters on the sections of obstetrics and gynecology, *Technical teaching aids:* multimedia screen, microscopes.
	133 (Saint Petersburg, st. Chernigovskaya, 5, 196084) Classroom for conducting seminars, consultations and course assessment	*Specialized furniture:* tables, chairs. *Technical teaching aids:* multimedia projector, screen, laptop, restraint frames for cattle.
	132 (Saint Petersburg, st. Chernigovskaya, 5, 196084) Laboratory for conducting seminars, consultations and course assessment	*Specialized furniture:* tables with special cover. *Technical teaching aids:* laboratory glassware, specialized laboratory equipment, microscopes, stereoscopic microscope, Dewar flask, chemicals for sperm research refrigerator, instruments for obtaining sperm and artificial insemination of animals, obstetric instruments (knives, tweezers, scalpels, scissors of all types, instruments for fetotomy and obstetrics)

		multimedia projector, screen, laptop, *Visual aids and educational materials:* cryopreserved sperm.
	206 Big reading room (Saint Petersburg, st. Chernigovskaya, 5, 196084) Room for independent work	*Specialized furniture:* tables, chairs *Technical teaching aids:* computers with an Internet connection and access to the electronic information and electronic educational environment
	214 Small reading room (Saint Petersburg, st. Chernigovskaya, 5, 196084) Room for independent work	*Specialized furniture:* tables, chairs *Technical teaching aids:* computers with an Internet connection and access to the electronic information and electronic educational environment
	324 Information technology department (Saint Petersburg, st. Chernigovskaya, 5, 196084) Room for storage and preventive maintenance of educational equipment	*Specialized furniture:* tables, chairs, special equipment, materials and spare parts for preventive maintenance of educational equipment.
	Box №3 Carpentry workshop (Saint Petersburg, st. Chernigovskaya, 5, 196084) Room for storage and preventive maintenance of educational equipment	*Specialized furniture:* tables, chairs, special equipment, materials for preventive maintenance of specialized furniture.

Developers:

Head of the Department of Genetic and Reproductive Biotechnologies Professor, Doctor of Veterinary Sciences — Plemyashov K.V.

Associate Professor, Candidate of Veterinary Sciences — Achilov V.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 Genetic and Reproductive Biotechnologies

FUND OF ASSESMENT TOOLS

for the discipline

«OBSTETRICS AND GYNECOLOGY»

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

Table 1

№	Acquired competence	Assessed modules of a discipline	Assesment tool
	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 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**	Obstetrics and gynecology	Seminar, term paper, test, examination

	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 methods and techniques of non-drug manipulations for the animal. 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 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-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		

2. List of assessment tools

Table 2

№	Name of the assessment tool	Brief description of the assesment tool	Presentation of the assessment tool in the fund
1.	Seminar	A mean of control is organized as a conversation between the teacher and the student on topics related to the discipline	Questions on topics/modules 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.	Term paper	A mean of assessment or testing the ability to apply acquired knowledge to diagnose a disease, make a diagnosis, prescribe treatment in the form of writing a term paper	A fund of term paper topics

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

Table 3

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

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.	problems basic skills were not demonstrated, gross errors occurred	standard tasks with some shortcomings	basic skills were not demonstrated with some flaws	solving non-standard tasks without errors and flaws	
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.	When solving standard problems basic skills were not demonstrated, gross errors occurred	There is a minimum set of skills to solve standard tasks with some shortcomings	When solving standard problems basic skills were not demonstrated with some flaws	Skills were demonstrated in solving non-standard tasks without errors and flaws	Seminar, Test, Term paper
PC-3 ID-2 To possess skills to use specialized information databases for the diagnosis of animal diseases	When solving standard problems basic skills were not demonstrated, gross errors occurred	There is a minimum set of skills to solve standard tasks with some shortcomings	When solving standard problems basic skills were not demonstrated with some flaws	Skills were demonstrated in solving non-standard tasks without errors and flaws	Seminar, Test, Term paper
PC-3 ID-3 To possess skills to document the results of clinical animal studies, using digital technologies.	When solving standard problems basic skills were not demonstrated, gross errors occurred	There is a minimum set of skills to solve standard tasks with some shortcomings	When solving standard problems basic skills were not demonstrated with some flaws	Skills were demonstrated in solving non-standard tasks without errors and flaws	Seminar, Test, Term paper

PC-3 ID-4 To know the methods of interpretation and data analysis of special (instrumental) methods of animal examination.	The level of knowledge is below the minimum requirements, gross errors have occurred	The minimum acceptable level of knowledge, many minor errors have been made	The level of knowledge corresponds to the training program, several minor errors have been made	The level of knowledge corresponds to the training program, no errors have been made	Seminar, Test, Term paper
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.	The level of knowledge is below the minimum requirements, gross errors have occurred	The minimum acceptable level of knowledge, many minor errors have been made	The level of knowledge corresponds to the training program, several minor errors have been made	The level of knowledge corresponds to the training program, no errors have been made	Seminar, Test, Term paper
PC-3 ID-6 To know the etiology and pathogenesis of animal diseases of various species.	The level of knowledge is below the minimum requirements, gross errors have occurred	The minimum acceptable level of knowledge, many minor errors have been made	The level of knowledge corresponds to the training program, several minor errors have been made	The level of knowledge corresponds to the training program, no errors have been made	Seminar, Test, Term paper
PC-3 ID-7 To know the generally accepted criteria and classifications of animal diseases, approved lists of animals disease.	The level of knowledge is below the minimum requirements, gross errors have occurred	The minimum acceptable level of knowledge, many minor errors have been made	The level of knowledge corresponds to the training program, several minor errors have been made	The level of knowledge corresponds to the training program, no errors have been made	Seminar, Test, Term paper
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.	When solving standard problems basic skills were not demonstrated, gross errors occurred	There is a minimum set of skills to solve standard tasks with some shortcomings	When solving standard problems basic skills were not demonstrated with some flaws	Skills were demonstrated in solving non-standard tasks without errors and flaws	Seminar, Test, Term paper
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.	When solving standard problems basic skills were not demonstrated, gross errors occurred	There is a minimum set of skills to solve standard tasks with some shortcomings	When solving standard problems basic skills were not demonstrated with some flaws	Skills were demonstrated in solving non-standard tasks without errors and flaws	Seminar, Test, Term paper
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.	When solving standard problems basic skills were not demonstrated, gross errors occurred	There is a minimum set of skills to solve standard tasks with some shortcomings	When solving standard problems basic skills were not demonstrated with some flaws	Skills were demonstrated in solving non-standard tasks without errors and flaws	Seminar, Test, Term paper
PC-5 ID-4 To be able to administer drugs to the animals body in various techniques.	When solving standard problems basic skills were not demonstrated,	There is a minimum set of skills to solve standard tasks with some shortcomings	When solving standard problems basic skills were not demonstrated with some flaws	Skills were demonstrated in solving non-standard tasks without errors and flaws	Seminar, Test, Term paper

	gross errors occurred				
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.	The level of knowledge is below the minimum requirements, gross errors have occurred	The minimum acceptable level of knowledge, many minor errors have been made	The level of knowledge corresponds to the training program, several minor errors have been made	The level of knowledge corresponds to the training program, no errors have been made	Seminar, Test, Term paper
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	The level of knowledge is below the minimum requirements, gross errors have occurred	The minimum acceptable level of knowledge, many minor errors have been made	The level of knowledge corresponds to the training program, several minor errors have been made	The level of knowledge corresponds to the training program, no errors have been made	Seminar, Test, Term paper
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	When solving standard problems basic skills were not demonstrated, gross errors occurred	There is a minimum set of skills to solve standard tasks with some shortcomings	When solving standard problems basic skills were not demonstrated with some flaws	Skills were demonstrated in solving non-standard tasks without errors and flaws	Seminar, Test, Term paper

PC-6 ID-2 To be able to fix animals to ensure safety during medical procedures	When solving standard problems basic skills were not demonstrated, gross errors occurred	There is a minimum set of skills to solve standard tasks with some shortcomings	When solving standard problems basic skills were not demonstrated with some flaws	Skills were demonstrated in solving non-standard tasks without errors and flaws	Seminar, Test, Term paper
PC-6 ID-3 To be able to maintain patients documentation on diseases and treatment of animals, using digital technologies	When solving standard problems basic skills were not demonstrated, gross errors occurred	There is a minimum set of skills to solve standard tasks with some shortcomings	When solving standard problems basic skills were not demonstrated with some flaws	Skills were demonstrated in solving non-standard tasks without errors and flaws	Seminar, Test, Term paper
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	The level of knowledge is below the minimum requirements, gross errors have occurred	The minimum acceptable level of knowledge, many minor errors have been made	The level of knowledge corresponds to the training program, several minor errors have been made	The level of knowledge corresponds to the training program, no errors have been made	Seminar, Test, Term paper
PC-6 ID-6 To know the methods and techniques of non-drug manipulations for the animal.	The level of knowledge is below the minimum requirements,	The minimum acceptable level of knowledge, many minor errors have been made	The level of knowledge corresponds to the training program, several minor errors have been made	The level of knowledge corresponds to the training program, no errors have been made	Seminar, Test, Term paper

	gross errors have occurred				
PC-6 ID-7 To know the methods of animals fixation during treatment.	The level of knowledge is below the minimum requirements, gross errors have occurred	The minimum acceptable level of knowledge, many minor errors have been made	The level of knowledge corresponds to the training program, several minor errors have been made	The level of knowledge corresponds to the training program, no errors have been made	Seminar, Test, Term paper
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.	The level of knowledge is below the minimum requirements, gross errors have occurred	The minimum acceptable level of knowledge, many minor errors have been made	The level of knowledge corresponds to the training program, several minor errors have been made	The level of knowledge corresponds to the training program, no errors have been made	Seminar, Test, Term paper
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	When solving standard problems basic skills were not demonstrated, gross errors occurred	There is a minimum set of skills to solve standard tasks with some shortcomings	When solving standard problems basic skills were not demonstrated with some flaws	Skills were demonstrated in solving non-standard tasks without errors and flaws	Seminar, Test, Term paper
PC-10 ID-2 To be able to use specialized information databases when choosing ways for treat animal diseases	When solving standard problems basic skills were not demonstrated,	There is a minimum set of skills to solve standard tasks with some shortcomings	When solving standard problems basic skills were not demonstrated with some flaws	Skills were demonstrated in solving non-standard tasks without errors and flaws	Seminar, Test, Term paper

	gross errors occurred				
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	The level of knowledge is below the minimum requirements, gross errors have occurred	The minimum acceptable level of knowledge, many minor errors have been made	The level of knowledge corresponds to the training program, several minor errors have been made	The level of knowledge corresponds to the training program, no errors have been made	Seminar, Test, Term paper
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-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.	When solving standard problems basic skills were not demonstrated, gross errors occurred	There is a minimum set of skills to solve standard tasks with some shortcomings	When solving standard problems basic skills were not demonstrated with some flaws	Skills were demonstrated in solving non-standard tasks without errors and flaws	Seminar, Test, Term paper
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	The level of knowledge is below the minimum requirements, gross errors have occurred	The minimum acceptable level of knowledge, many minor errors have been made	The level of knowledge corresponds to the training program, several minor errors have been made	The level of knowledge corresponds to the training program, no errors have been made	Seminar, Test, Term paper

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	When solving standard problems basic skills were not demonstrated, gross errors occurred	There is a minimum set of skills to solve standard tasks with some shortcomings	When solving standard problems basic skills were not demonstrated with some flaws	Skills were demonstrated in solving non-standard tasks without errors and flaws	Seminar, Test, Term paper
PC-17 ID-2 To know the methodology of veterinary examination of animals in accordance with the actual methodological guidelines	The level of knowledge is below the minimum requirements, gross errors have occurred	The minimum acceptable level of knowledge, many minor errors have been made	The level of knowledge corresponds to the training program, several minor errors have been made	The level of knowledge corresponds to the training program, no errors have been made	Seminar, Test
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	The level of knowledge is below the minimum requirements, gross errors have occurred	The minimum acceptable level of knowledge, many minor errors have been made	The level of knowledge corresponds to the training program, several minor errors have been made	The level of knowledge corresponds to the training program, no errors have been made	Seminar, Test

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.Questions for knowledge survey

Questions to assess competency

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.

1. Biological characteristics of artificial insemination.
2. Methods of artificial insemination of animals.
3. Species-specific features of artificial insemination.
4. Advantages of artificial insemination.
5. Methods of artificial insemination of cows

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.

1. Concentration of spermatozoa in 1 ml of semen in rams, bulls, stallions, boars
2. Types of energy processes in sperm
3. Evaluation of live and abnormal forms of spermatozoa.
4. Evaluation of sperm density and activity.
5. Evaluation of sperm concentration.
6. Respiration and sperm resistance.
7. Chemical composition of sperm. Objectives of sperm dilution.
8. Electric charge of and types of its agglutination.
9. Pathological types of spermatozoa movement.
10. Macroscopic examination of semen.

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.

1. Methods of semen collection.
2. Preparation of an artificial vagina.
3. Physiology and biochemistry of sperm.

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.

1. Obstetric and gynecological screening of females.

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

1. Mastitis diagnostic methods
2. Pregnancy diagnostic methods

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

1. Methods for estimation of sperm concentration (counting chambers, using colorimeter, using optical standard, using CASA software)

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

1. Diagnosis of clinical and subclinical mastitis

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.

1. Volume of ejaculate of various species
2. Concentration of spermatozoa in ejaculate of various species
3. Sperm dose

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

1. Abortion, its species-specific features
2. Fetotomy, its indications and technique
3. Rectal and vaginal examination of animals

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

1. Etiology of animal infertility, economic damage from infertility of dams and sires.
2. Impact of inadequate feeding of animals

3. Barrenness, as a consequence of violation of artificial insemination, prevention

4. Causes of dystocia

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.

1. Methods for determining pregnancy
2. Pregnancy diagnostics in cow

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.

1. Ovulation induction methods
2. Ovarian diseases, prevention and treatment
3. Udder diseases, prevention and treatment
4. Endometritis, prevention and treatment

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.

1. Anaphrodesia and nymphomania
2. Application of gonadotropic and steroid hormones
3. Labor pathologies, conservative and surgical care

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

1. Vaginal and rectal examination of the animal
2. Mastitis, its prevention and treatment
3. Fetotomy, its indications and technique
4. Placenta retention

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.

1. Ovarian cysts

2. Ovarian hypofunction
3. Serous mastitis.
4. Catarrhal mastitis
5. Fibrinous mastitis
6. Specific mastitis
7. Purulent mastitis

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.

1. Timing of insemination
2. Methods of insemination in sheeps
3. Methods of insemination in cattle
4. Methods of insemination in pigs

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.

1. Sperm collection methods
2. Sperm dilution and diluting media
3. Requirements for sperm diluting media
4. Sperm transportation

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

1. Safety precautions when diagnosing pregnancy and treating animals

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

1. Record-keeping for insemination of female animals
2. Insemination index
3. Livestock yield

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.

1. Basic principles of obstetric care

PC-6 ID-6 To know the methods and techniques of non-drug manipulations for the animal.

1. Indications for caesarean section, fetotomy
2. Barrenness as a result of violation of the artificial insemination procedure

PC-6 ID-7 To know the methods of animals fixation during treatment.

1. Basic principles of obstetric care
2. Diagnosis of pregnancy
3. Peculiarities of cattle reproduction during housing

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.

1. Analysis of herd reproduction

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

1. Chronic endometritis
2. Somatic cells
3. Classification of mastitis

PC-10 ID-2 To be able to use specialized information databases when choosing ways for treat animal diseases

1. Health screening of male animals
2. Mode of reproductive use of sires

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

1. Pathologies of the birth
2. Pathologies of the postpartum period of a non-inflammatory nature
3. Pathologies of the postpartum period of an inflammatory nature

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-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.

1. Periods of labor in females, its species-specific features
2. Duration of birth periods in different animal species
3. Duration of pregnancy in female animals, species-specific features
4. Features of the estrous cycle in female animals, its species-specific features
5. Duration of the estrous cycle in female animals, its species-specific features

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

1. Neurohumoral regulation of reproductive function in male animals
2. Neurohumoral regulation of reproductive function in female 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.

1. Methods of artificial insemination of cattle, their comparative assessment
2. Organization and technique of artificial insemination of cows and heifers using the visocervical method
3. Organization and technique of artificial insemination of cows using the manocervical method
4. Organization and technique of artificial insemination of cows using the recto-cevical method

PC-17 ID-2 To know the methodology of veterinary examination of animals in accordance with the actual methodological guidelines.

1. Feeding, handling and use of sires. Safety precautions when working with sires

2. Types and methods of natural insemination in animals, their veterinary-sanitary assessment and evaluation of effectiveness.

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.

1. Pathologies of pregnant animals.

3.1.1. Tests

GPC-1. IS ABLE TO DETERMINE THE BIOLOGICAL STATUS, NORMAL CLINICAL SIGNS OF ORGANS AND SYSTEMS OF THE ANIMAL BODY

Tasks of a combined type with the choice of one/several correct answers from the proposed options

Question 1
The ovaries of a cat are located:
A) IN THE PELVIC CAVITY;
B) IN THE THORACIC CAVITY;
C) IN THE ABDOMINAL CAVITY;
D) ABSENT.
Answer: C

Question 2
The size of a mature follicle in a cow reaches:
A) 1-2 CM;
B) 4-6 CM;
C) 0.5-1 CM;
D) 0.3-0.8 CM.
Answer: A

Question 3
On average, the estrous cycle in cattle is:

A) 10 DAYS;
B) 21 DAYS;
C) 32 DAYS;
D) 40 DAYS.
Answers:B

Question 4
At what age do dairy heifers reach physiological maturity:

A) 6-8 MONTHS;
B) 8-10 MONTHS;
C) 12-14 MONTHS;
D) 20-22 MONTHS.
Answers:C

Question 5
The shape of the ovaries in cows:

A) ROUND;
B) BEAN-SHAPED;
C) GRAPE-SHAPED;
D) OVAL.

Answers:D

Matching Tasks

Match the description and the biological status of the animal:

Question 1

A. Increased activity, immobility reflex with a periodicity of 21 days
B. No estrus, formation on one of the ovaries with a wall thickness of more than 5 mm
C. No estrus, uterine atony
D. Increased activity, immobility reflex with a periodicity of 5 days, formation on one of the ovaries with a wall thickness of less than 5 mm

1. Estrus
2. Ovarian hypofunction
3. Luteal cyst
4. Follicular cyst

A — 1, B — 3, C — 2, D — 4

Question 2

A. Swelling of the external genitalia, enlargement of the mammary gland, appearance of colostrum
B. Decrease in average daily milk yield after insemination, deterioration in milk quality
C. Swelling of the endometrial walls, dominant follicle on ultrasound examination
D. Corpus luteum retained in the ovary for more than 25 days

1. Approaching parturition
2. Estrus period
3. Persistent corpus luteum
4. Stop of lactation before calving

A — 1, B — 4, C — 2, D —3

Question 3

A. No ovulation during estrus
B. No estrus in a mare during the winter
C. First ovulation in young cattle at the age of 6-8 months
D. Cessation of lactation and transfer of animals to the resting group

1. Seasonal anestrus
2. Anovulatory cycle
3. Sexual maturity
4. Dry period

A — 2, B — 1, C — 3, D — 4

Question 4

A. Time from calving to productive insemination
B. Separation of fetal membranes within 8-12 hours after birth of the fetus
C. Process of fusion of sex cells
D. Active contraction of smooth muscles of the uterus during labor

1. Service period
2. Contractions
3. Afterbirth stage of labor
4. Fertilization

A — 1, B — 3, C — 4, D — 2

Question 5

A. Increased sexual activity in autumn and winter in small cattle
B. Formation of a yellow body after ovulation
C. Hyperemia and release of transparent mucus from the external genitalia

Absence of hunting phenomenon during estrus in cows

1. The luteal phase
2. Heat
3. Seasonal estrus
4. Asynchronous sexual cycle

A — 3, B — 1, C — 2, D — 4

Ordered-response questions

Question 1

Place the stages of labor in the correct order:
A. Labor
B. Consequential
C. Preparatory

Answer: C→ A→ B

Question 2

Specify the correct sequence of phenomena of the arousal stage according to A.P. Studentsov:
A. Ovulation
B. Estrus
C. Hunting
D. Sexual arousal
Answer: B → D → C → A

Question 3

Specify the correct sequence of the sexual cycle according to Hipp:

A. Metestrus
B. Proestrus
C. Estrus
D. Diestrus

Answer: B → C → A → D

Question 4

Specify the correct sequence of folliculogenesis:
A. Antral stage
B. Preantral stage
C. Primordial stage
D. Preovulatory stage

Answer: C → B → A → D

Question 5
Specify the correct sequence of spermatogenesis:

A. Reproduction
B. Formation
C. Maturation
D. Growth

Answer: A → D → C → B

Open-ended tasks

Question 1
What forms in place of the ruptured dominant follicle?

Answer: Corpus luteum

Question 2

What hormone is necessary for lactation?

Answer: Prolactin

Question 3

What hormone does the pre-ovulatory follicle secrete?

Answer: Estrogen

Question 4

What hormone does the corpus luteum secrete?

Answer: Progesterone

Question 5

What hormone is responsible for the growth and development of the follicle?

Answer: Follicle-stimulating hormone

PC-3. TO SET THE DIAGNOSE BASED ON THE ANALYSIS OF ANAMNESIS, GENERAL, SPECIAL (INSTRUMENTAL) AND LABORATORY RESEARCH METHODS.

Tasks of a combined type with the choice of one/several correct answers from the proposed options

Question 1
What anamnesis data is most important when suspecting a pathology of pregnancy in a cow? (Select all correct options)

A) Number of lactations
B) Date of last insemination
C) Presence of previous abortions
D) Body weight of the animal
E) Breed of the animal
Answer: B, C

Question 2
Which of the following methods is a special instrumental examination in veterinary obstetrics?

A) Measuring body temperature
B) Rectal examination
C) Blood test
D) Palpation of the udder
E) Vaginoscopy
Answer: B, E

Question 3
What laboratory method can be used to diagnose postpartum endometritis in cows?

A) General urine analysis
B) Examination of a smear from the uterus
C) Biochemical analysis of milk
D) Determination of hormone levels
E) Microbiological examination of discharge from the uterus

Answer: B, D, E

Question 4
Ultrasound examination of the uterus in cows should not normally reveal:

A) Homogeneous structure of the uterine wall
B) Liquid contents in the lumen
C) Enlarged caruncles
D) Areas of hyperechogenicity in the endometrium

Answer: B, D

Question 5
What are the common clinical signs of acute genital inflammation in animals? (Select all correct options)

A) Increased body temperature
B) Increased food intake
C) Painful reactions to palpation
D) Purulent or bloody vaginal discharge
E) Decreased activity

Answer: A, C, D, E

Matching Tasks

Match the description and the diagnosis:

Question 1

A. Frequent births, large fetus, vaginal and cervical tension
B. Placenta retention for more than 24 hours, general condition worsening
C. Multiple interventions during birth, contaminated instruments
D. Vulvar edema, mucous discharge, general condition satisfactory

1. Uterine rupture
2. Metritis
3. Aseptic vaginitis
4. Physiological preparation for birth

A — 1, B — 2, C — 3, D — 4

Question 2
A. Dry birth canal, fetus in cephalic presentation, cervix not dilated
B. Labor interrupted after long contractions, fetus stuck
C. Large calf, assistance was provided with effort, bloody discharge after calving
D. Watery, foul-smelling fluid is released from the vagina a week before the expected date of delivery

1. Cervical rigidity
2. Secondary labor weakness
3. Birth canal trauma
4. Intrauterine fetal death

A — 1, B — 2, C — 3, D — 4

Question 3
A. The animal cannot stand up after calving, the mammary glands are enlarged, the body temperature is low
B. No appetite, vaginal discharge, painful uterus
C. Frequent miscarriages, growth retardation, lack of minerals in the diet
D. Lengthening the calving interval, absence of sexual cycles

1. Milk fever
2. Acute endometritis
3. Hypocalcemia
4. Anaphrodisia

A — 1, B — 2, C — 3, D — 4

Question 4
A. The cow gave birth without complications, but the fetus was dead
B. Excessive force was used during the birth, bleeding after calving
C. Edema of the external genitalia, no contractions, the fetus is intact
D. The fetus is located transversely, no progression

1. Antenatal fetal death
2. Vaginal rupture
3. Vaginal prolapse
4. Malpresentation

A — 1, B — 2, C — 3, D — 4

Question 5
A. The animal is giving birth for the first time, contractions are weak, the fetus is in anterior presentation
B. The fetus is partially delivered, but is stuck in the birth canal, the uterus has stopped contracting
C. Repeated births, the birth canal is relaxed, no contractions
D. A dead calf was born, the uterus does not contract, the placenta does not come out

1. Primary weakness of labor
2. Secondary weakness of labor
3. Atony of the uterus
4. Retained placenta

A — 1, B — 2, C — 3, D — 4

Question 6
A. Purulent discharge, fever, painful uterus upon palpation
B. Lengthening of the intercalving period, no estrus
C. Frequent estrus, but pregnancy does not occur, ovulation does not occur
D. Abundant mucous discharge, not typical for the stage of the cycle

1. Endometritis
2. Acyclia
3. Follicular cyst
4. Vulvovaginitis

A — 1, B — 2, C — 3, D — 4

Ordered-response questions

Question 1
Set the diagnostic steps for suspected endometritis in a cow in the right order:

A. Rectal examination
B. History taking: calving 2 weeks ago, discharge

C. Laboratory analysis of uterine discharge
D. Vaginal examination and assessment of the nature of the exudate

Answer: B → D → A → C

Question 2
You suspect a cow has retained placenta. Set the diagnostic steps in the correct order:

A. Rectal examination: determining the condition of the uterus and ligaments
B. Collecting anamnesis (time of calving, course of labor)
C. Examination of the external genitalia for the presence of placenta tissue
D. General clinical assessment: temperature, pulse, appetite

Answer: B → D → C → A

Question 3
Diagnosis of vaginal cyst in a heifer. Set the diagnostic steps in the correct order:

A. Rectal examination with ovarian assessment
B. Anamnesis
C. Vaginal examination with visualization of the formation
D. Ultrasound diagnostics of the ovaries and vagina

Answer: B → C → A → D

Question 4
Diagnosis of milk fewer in a cow. Set the diagnostic steps in the correct order:

A. Measuring body temperature, heart rate, respiration
B. Examination of the animal: lying down, weakness, muscle tension
C. Collecting anamnesis: recently calved, does not get up
D. Laboratory blood test for calcium levels

Answer: C → B → A → D

Question 5
Suspected pyometra in a cow. Set the diagnostic steps in the correct order:

A. Anamnesis taking: long-term infertility, no discharge
B. Pelvic ultrasound
C. Rectal examination: uterus enlarged, fluctuation
D. Vaginal examination: test for discharge
Answer: A → D → C → B

Open-ended tasks

Question 1
What research method is used to determine the position, presentation and position of the fetus in cows?

Answer: Rectal examination

Question 2

What laboratory blood indicator indicates an inflammatory process in postpartum metritis?

Answer: Leukocytosis

Question 3

What is the name of the research method that uses vaginal speculums to assess the condition of the cervix and vagina?

Answer: Vaginoscopy

Question 4

What anamnestic sign is most characteristic for diagnosing retained placenta in cows?

Answer: Absence of placenta separation 6-8 hours after calving

Question 5

What special method is used to determine the functional state of the ovaries in cows?

Answer: Ultrasound examination

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

Tasks of a combined type with the choice of one/several correct answers from the proposed options

Question 1
Which of the drugs should be used to treat a follicular cyst?

A. GnRH hormone
B. Progesterone
C. Prostaglandin F2-alpha

Answer: A

Question 2
In case of subclinical mastitis prescribe:

A. Oxytocin

B. Progesterone
C. Ketoprofen

Answer: C

Question 3
The persistent corpus luteum is lysed after the introduction of:

A. Oxytocin
B. Progesterone
C. Ketoprofen

Answer: D

Question 4
In case of cervical spasm during calving, use:

A. GnRH hormone
B. Drotaverine
C. Prostaglandin F2-alpha

Question 5
In case of clinical mastitis, use:

A. Amoxicillin 15%
B. GnRH hormone
C. Prostaglandin F2-alpha

,

Match the disease with the most effective medicine:

A. Subclinical mastitis
B. Follicular cyst
C. Subinvolution of the uterus
D. Persistent corpus luteum

Answer: A — 3, B — 4, C — 2, D — 1

Question 2
Match the drug and the indication for use:

A. Surfagon
B. Estrofantin
C. Drotaverine
D. Ketoprofen

1. Corpus luteum lysis
2. Cervical spasm
3. Ovulation stimulation
4. Mastitis

Answer: A — 3, B — 1, C — 2, D — 4

Question 3
Match the treatment measure and the disease:

A. Intravenous calcium administration
B. Stimulation of uterine smooth muscle contractions
C. Epidural block
D. Intracisternal antibiotic administration

1. Strong contractions and pushing
2. Retention of placenta
Milk fewer

Answer: A — 3, B — 2, C — 1, D — 4

Question 4
Match the drug and contraindications:

A. Dexamethasone
B. Ketoprofen
C. Oxytocin
D. Progesterone

1. Subinvolution of the uterus
2. Pregnancy more than 2 months
3. Strong contractions and pushing

Answer: A — 2, B — 4, C — 3, D — 1

Question 5
Match the task and appropriate medical procedure:

A. Improvement of uterine involution after calving
B. Endometritis
C. Milk fewer

D. Subclinical mastitis

1. Stimulation of smooth muscle contraction
2. Nonsteroidal anti-inflammatory drug

Answer: A — 1, B — 3, C — 4, D — 2

Ordered-response questions

Question 1
Write down the correct sequence of steps in case of weak contractions due to dorsal presentation of the fetus and further actions of the veterinarian after calving:

A. Administration of oxytocin
B. Correction of the pathological position of the fetus
C. Clearing the respiratory tract from mucus in the fetus
D. Treatment of the umbilical cord of the fetus with a 5% iodine solution

Answer: B → A → C → D

Question 2
The correct sequence for treating purulent endometritis by washing the uterus with an antibiotic solution:

A. Disposal of disposable supplies
B. Passing the cervix and introducing the solution
C. Inserting a disposable pipette into the vagina
D. Treatment of the external genitalia

Answer: D → C → B → A

Question 3
Write down the correct sequence of steps for administering an intracisternal agent:

A. Complete milking of the inflamed lobe
B. Administration of the drug into the inflamed lobe
C. Treatment of the nipple with a disposable disinfectant wipe
D. Treatment of the nipple with a film-forming agent

Answer: A → C → B → D

Question 4
Write down the correct sequence of steps for a veterinary specialist in case of cervical spasm:

A. Applying obstetric ropes to the presenting limbs of the fetus
B. Palpation of the uterine cavity for pathological positioning of the fetus
C. Administration of the Drotaverine to relieve spasms
D. Providing obstetric assistance during contractions

Answer: B → C → A → D

Question 5
Write down the correct sequence of steps for uterine prolapse:

A. Cold uterine application
B. Epidural block
C. Repositioning the prolapsed uterus
D. Suturing the vulva

Answer: B → A → C → D

Open-ended tasks

Question 1
What hormone stimulates smooth muscle contraction?

Answer: Oxytocin

Question 2
How to reduce strong contractions and pushing?

Answer: Epidural block

Question 3
A hormone that stimulates ovulation?

Answer: GnRH hormone

Question 4
What method of drug therapy is used for clinical mastitis?

Answer: Intracisternal administration of antibiotic

Question 5
Indications for the use of intrauterine solution with antibiotic

Answer: Endometritis

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

Tasks of a combined type with the choice of one/several correct answers from the proposed options

Question 1
Which of the physiotherapeutic methods is most effective in stimulating uterine contraction in cows with atony?

A. Ultrasound therapy
B. Electrical stimulation
C. Ozone therapy
D. Magnetic therapy

Question 2
When using infrared radiation for the treatment of inflammation of the external genitalia in animals, what is the main safety rule that must be followed?

A. Do not use for more than 1 minute
B. Check the tightness of the electrode contact
C. Maintain a safe distance between the lamp and the skin
D. Pre-cool the area of exposure

Answer: C

Question 3
What non-drug therapy method is most appropriate for treating subclinical endometritis in cows?

A. Ozone therapy
B. Electrical stimulation
C. Ovarian massage
D. Magnetic therapy

Question 4
What is a prerequisite before starting any procedure using physiotherapy equipment?

A. Use of antibiotics
B. Re-feeding the animal
C. Checking the equipment and grounding
D. Raising the animal's body temperature

Question 5
What physiotherapeutic method is used to stimulate ovarian function in case of their hypofunction?

A. UHF
B. Laser therapy
C. Vibration massage

Match the disease and the most effective non-drug therapy method:

A. Atony of the uterus
B. Endometritis
C. Vulvovaginitis
D. Hypofunction of the ovaries

1. Vibration massage of the ovaries
2. Thermal procedures (infrared irradiation)
3. Electrical stimulation of the uterus
4. Lavage and UHF

Answer: A — 3, B — 4, C — 2, D — 1

Question 2
Match the physiotherapy method with its main effect:

A. UHF therapy
B. Magnetic therapy
C. Electrical stimulation
D. Infrared irradiation

1. Improvement of microcirculation, stimulation of recovery
2. Increase of smooth muscle tone
3. Pain relief, inflammation relief
4. Increase of local temperature, stimulation of blood flow

Answer: A — 3, B — 1, C — 2, D — 4

Question 3
Match the equipment and its safe use rules:

A. UHF device
B. Electrostimulator
C. Infrared lamp
D. Ozonizer

1. Control the distance to the skin, avoid burns
2. Check the density of the electrode contact
3. Check the grounding and the absence of metal objects
4. Use in a well-ventilated room

Answer: A — 3, B — 2, C — 1, D — 4

Question 4
Match the procedure and contraindication:

A. Electrical stimulation of the uterus
B. UHF therapy
C. Infrared irradiation
D. Ozone therapy

1. Elevated body temperature
2. Pregnancy
3. Damage to the skin in the treatment area
4. Cardiovascular insufficiency

Answer: A — 2, B — 4, C — 3, D — 1

Question 5
Match the task and appropriate non-drug procedure:

A. Improving uterine involution after calving
B. Reducing inflammation in metritis
C. Stimulating sexual cycle
D. Disinfection of the vagina

1. Electrical stimulation
2. Ozone therapy
3. UHF
4. Magnetic therapy

Answer: A — 1, B — 3, C — 4, D — 2

Ordered-response questions

Question 1
Write down the correct sequence of steps for UHF therapy for the treatment of subclinical endometritis:

A. Preparing the equipment and setting the device to the desired frequency
B. Clarifying the diagnosis and obtaining a prescription from the doctor
C. Fixing the animal and ensuring the safety of the staff
D. Carrying out the procedure according to the established parameters

Answer: B → A → C → D

Question 2
When treating purulent endometritis by uterine lavage and ozone therapy, establish the correct sequence of steps:

A. Uterine lavage with ozonized solution
B. Preparation of ozonized solution
C. Animal preparation, fixation, hygienic treatment
D. Obtaining a veterinary diagnosis and prescribing therapy

Answer: D → C → B → A

Question 3
Write down the sequence of steps for safe and effective use of the magnetic therapy device for uterine atony:

A. Checking the serviceability of the device and grounding

B. Selecting and setting the exposure parameters
C. Fixing the animal in a position that excludes its movement
D. Monitoring the animal's reaction during the procedure

Answer: A → B → C → D

Question 4
When treating ovarian hypofunction with physiotherapeutic methods (electrical stimulation), write down the correct order:

A. Applying electrodes according to the instructions
B. Diagnosis, eliminating contraindications
C. Setting current parameters and checking the device
D. Carrying out the procedure taking into account the animal's reaction

Answer: B → C → A → D

Question 5
When using infrared irradiation to treat inflammatory processes of the external genitalia (e.g. vulvitis), write down the correct sequence:

A. Setting the device to the desired distance and angle
B. Preparing the animal: fixing, cleaning the area of exposure
C. Carrying out the procedure taking into account the exposure time
D. Checking the skin condition after the treatment for preventing burns

Answer: B → A → C → D

Open-ended tasks

Question 1

What method of physiotherapy is used to stimulate uterine contractions in cows with atony?

Answer: Electrical stimulation

Question 2

What method of therapy is used to sanitize the uterus and vagina using active forms of oxygen?

Answer: Ozone therapy

Question 3

What physiotherapy equipment requires mandatory grounding before starting work?

Answer: UHF apparatus

Question 4

What method of non-drug therapy is used for ovarian hypofunction in cows?

Answer: Vibration massage

Question 5

What is the main physiotherapy method used for inflammation of the external genitalia in animals, based on thermal effects?

Answer: Infrared irradiation

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

Tasks of a combined type with the choice of one/several correct answers from the proposed options

Question 1

To which group do the instruments shown in the picture belong?

A.
B. for pushing away the fetus;
C. for extracting the fetus;

Answer: A

Question 2

Purpose of the crutch:

A. for pushing away the fetus;
B. for grasping the fetus;
C. for sawing;
D. auxiliary tool.

Answer: A

Question 3

Which obstetric instrument does not belong to the auxiliary group?

A. Linghorst loop guide;
B. Zwick loop guide;
C. Afanasyev loop guide;
D. Kuhn crutch.

D

Question 4

What instrument is used to correct the shoulder presentation?

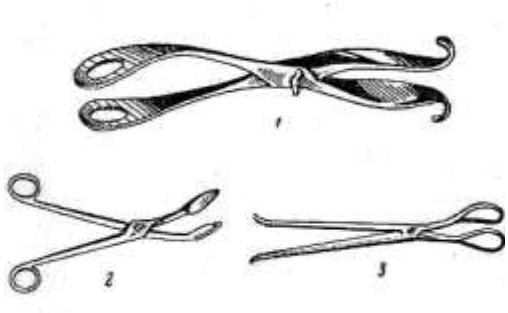
A. torsion fork;
B. Kuhn crutch;

C. obstetric crutch;
D. obstetric loop.
E.

Answer: D

Question 5

To which group of instruments do the ones shown in the picture belong?



B. for pushing away the fetus;
C. for extracting the fetus;
D. for fetotomy

Answer: D

Match the obstetric instruments and their groups:

A. Auxiliary
B. For pushing away
C. For extraction
D. For fetotomy

1. Kühn hook
2. Krey-Schottler hooks
3. Ring knife

Answer: A — 4, B — 1, C — 3, D — 2

Question 2

Match the criteria for fetal position and its types in the norm (during labor):

A. Presentation
B. Position
C. Position
D. Limb arrangement

1. Cephalic
2. Upper
3. Longitudinal

Answer: A — 1, B — 2, C — 3, D — 4

Question 3

Match the criteria for fetal position and its types in pathology (during labor):

A. Presentation
B. Position
C. Position

Answer: A — 1, B — 2, C — 3, D — 4

Question 4
Match the the types of male infertility and diagnosis/symptom

A. Alimentary
B. Symptomatic
C. Operational
D. Congenital

1. Cryptorchidism
2. Phimosis
3. Erectile dysfunction

Answer: A — 4, B — 2, C — 3, D — 1

Question 5
Match the clinical methods of pregnancy diagnostics and their markers
A. reflexological
B. external
C. rectal
D. vaginal

1. male probe
2. palpation
3. palpation of the uterine artery

Answer: A — 1, B — 2, C — 3, D — 4

Ordered-response questions

Question 1
Write down the correct sequence of sexual cycle phases according to the Hipp classification:

A. estrus
B. proestrus
C. diestrus
D. metestrus

Answer: B → A → D → C

Question 2
Write down the correct sequence of steps in case of abnormal fetal position:

A. Diagnosis
B. Clinical examination

C. Vaginal examination
D. Development of an action plan

Answer: A → B → C → D

Question 3

Write down the correct sequence of steps in the diagnosis of subclinical mastitis:

A. Analysis of milking technology
B. Study of anamnesis
C. Milking of mammary gland secretion
D. Setting up a reaction using Kenotest

Answer: B → A → C → D

Question 4

Write down the correct sequence of steps in the diagnosis of postpartum paresis:
A. Examination
B. Thermometry
C. Collection of anamneses
D. Analysis of labor activity

Answer: C → A → B → D

Question 5

Write down the correct sequence of steps in early pregnancy diagnostics (30 days after insemination):

A. Ultrasound
B. Rectal examination with palpation of the uterine artery
C. Inspection
D. Collection of anamneses

Answer: C → D→ B → A

Open-ended tasks

Question 1

What is the most reliable method of diagnosing pregnancy?

Answer: Ultrasound

Question 2

When using which test for detecting subclinical mastitis, is milk colored orange?

Answer: Kenotest

Question 3

Monitoring the content of which hormone is the basis for the endocrine method of determining mating in bitches?

Answer: Progesterone

Question 4

Analysis of which reflexes helps determine the type of higher nervous activity of producers?

Answer: Unconditional sexual

Question 5

What needs to be established before using oxytocin as part of labor stimulation?

Answer: Dilation of the cervical canal

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

Tasks of a combined type with the choice of one/several correct answers from the proposed options

Question 1
What activities are related to zootechnical measures for the prevention of parturient paresis in cows? (Select all correct options)

A) Monitoring the mineral composition of rations during the dry period
B) Timely insemination
C) Providing physical exercise
D) Using probiotics during the parturition period
E) Regular monitoring of the fatness of cows

Answers:A, C, E

Question 2
What organizational and technical measures can reduce the risk of postpartum complications in cows? (Select all correct options)

A) Setting up separate maternity boxes
B) Using ultrasound in all animals
C) Strictly maintaining a calendar of inseminations and calvings
D) Ensuring uninterrupted operation of the ventilation system

E) Reducing the number of milkings

Answers:A, C, D

Question 3
Which of the following are the main components of a veterinary plan for the prevention of non-communicable diseases? (Select all correct options)

A) Introducing quarantine at calving
B) Preventive administration of vitamin preparations
C) Conducting a medical examination of the breeding stock
D) Administration of vaccines against non-communicable diseases
E) Sanitary treatment of maternity wards

Answers:B, C, E

Question 4
What indicators are used to analyze the effectiveness of preventive measures to prevent non-communicable diseases in cows? (Select all correct options)

A) Percentage of complicated calvings
B) Productivity level
C) Calving season
D) Culling rate
E) Feed consumption

Answers:A, B, D

Question 5
What actions should be taken if low efficiency of postpartum disease prevention is detected? (Select all correct options)

A) Perform revaccination
B) Analyze the implementation of previously planned preventive measures
C) Adjust the diet and living conditions
D) Increase the amount of antibacterial drugs
E) Make changes to the prevention plan

Answers:B, C, E

Matching Tasks

Question 1
Match the measure and its type:

1. Installation of ventilation and lighting systems
2. Balanced feeding of animals according to the reproductive phases
3. Monitoring the timeliness of insemination
4. Ultrasound monitoring of pregnancy
5. Wiping the udder before and after milking

A. Veterinary event

B. Zootechnical event
C. Organizational and technical event

Answer:
1 – C, 2 – B, 3 – B, 4 – A, 5 – A

Question 2
Match the the disease with the most effective preventive measure:

11.
A. Treatment of the birth canal with antiseptics
B. Enrichment of the diet with calcium during the dry period
C. Control over udder sanitation
D. Rational selection of pairs for insemination
E. Timely provision of obstetric assistance

Answer:
1 – B, 2 – C, 3 – A, 4 – D, 5 – E

Question 3
Match the problem and its possible cause:

12. Increased infertility
13. Increased cases of mastitis
14. Frequent abortions
15. High mortality of newborns
16. Increase in hoof diseases

A. Insufficient sanitary control at calving
B. Low level of hygiene of milking equipment
C. Poor control of insemination and heat detection
D. Violation of conditions of keeping in stalls
E. Deficiency of vitamins and minerals

Answer: 1 – C, 2 – B, 3 – E, 4 – A, 5 – D

Question 4
Match the indicator and method of its analysis:

17. Frequency of complications after calving
18. Level of infertility
19. Number of cases of endometritis
20. Culling rate for reproductive reasons
21. Number of calves born with abnormalities

A. Comparison with planned zootechnical indicators
B. Intra-farm analysis of reproductive losses

C. Veterinary inspection logs
D. Veterinary and sanitary audit
E. Statistical analysis of records of pathological births

Answer: 1 – E, 2 – A, 3 – C, 4 – B, 5 – D

Question 5
Match the measure and its main purpose:

22. Maintaining the microclimate in the maternity ward
23. Treating the udder before milking
24. Introducing vitamins A, D, E
25. Monitoring the adequacy of the diet
26. Routine ultrasound examination of the breeding stock

A. Endometritis prevention
B. Reducing the risk of hypovitaminosis and abortions
C. Reducing infertility
D. Reducing the incidence of mastitis
E. Prevention of respiratory and postpartum diseases
Answer: 1 – E, 2 – D, 3 – B, 4 – A, 5 – C

Ordered-response questions

Question 1
Establish the correct sequence of stages for preparing an area for calving cows in order to prevent postpartum complications:

A. Disinfection of the area
B. Cleaning the area from manure and dirt
C. Ventilation and drying
D. Laying clean bedding

Answer: Б → А → В → Г

Question 2
Write down the correct sequence of steps when analyzing the effectiveness of preventing non-communicable diseases in breeding stock:

A. Comparison of indicators with standards
B. Collection and systematization of data (morbidity, infertility, abortions, etc.)
C. Formation of a report and proposals for adjusting the plan
D. Conclusions on the shortcomings and strengths of the activities

Answer: Б → А → Г → В

Question 3
Write down the correct sequence of steps to prepare the cow for calving:

A. Transfer to the maternity ward
B. Monitoring the condition of the udder and birth canal

C. Monitoring the diet
D. Limiting stress and physical activity

Answer: В → Г → А → Б

Question 4
Write down the correct sequence of steps when detecting an increase in barrenness in a herd:

A. Conducting gynecological examinations
B. Drawing up a plan of veterinary measures
C. Analysis of data on inseminations and successful calvings
D. Determining the causes (analysis of maintenance, feeding, etc.)

Answer: В → Г → А → Б

Question 5
Write down the correct sequence of steps when introducing a new non-communicable disease prevention system:

A. Train staff on new protocols
B. Develop a new prevention plan
C. Implement a performance monitoring system
D. Conduct a pilot implementation on a portion of the herd

Answer: Б → А → Г → В

Open-ended tasks

Question 1
What is the name of the inflammatory disease of the uterus in cows that occurs after calving due to poor hygiene?

Answer: Endometritis

Question 2
What veterinary indicator characterizes the number of under-received calves per 100 cows per year?

Answer: Barrenness

Question 3
What is the name of the compartment where cows are kept for a few days before and after calving?

Answer: Maternity

Question 4
What is the most common method used to diagnose subclinical mastitis in cows?

Answer: rapid mastitis test

Question 5
What measure is carried out monthly, quarterly and annually on the farm for early detection of diseases?

Answer: examination

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

Tasks of a combined type with the choice of one/several correct answers from the proposed options

Question 1
What tests are included in the mandatory list for obstetric and gynecological examination of cows?

A. Rectal examination
B. Measuring body temperature
C. Ultrasound of the reproductive organs
D. Taking smears from the vagina

Answers:A, C, D

Question 2
Which groups of animals are subject to obstetric and gynecological medical examination?

A. All postpartum cows
B. Only first-calf heifers
C. Barren cows
D. All inseminated females

Answers:A, C, D

Question 3
What goals are achieved during obstetric and gynecological medical examination?

A. Determination of heat
B. Diagnosis of reproductive organ pathologies
C. Selection of feed
D. Animal fertility assessment

Answers:B, D

Question 4
What mesuares are used during medical examination to assess reproductive function?

A. Examination of external genitalia
B. Palpation of the udder
C. Ultrasound diagnostics
D. Gynecological examination through the vagina

Answers: A, C, D

Question 5
What factors are taken into account when drawing up a medical examination plan?

A. Age and productivity of animals
B. Insemination season
C. Weather conditions
D. Animal housing technology

Answers: A, B, D

Matching Tasks

Question 1
Match the measures and their main effects:

27. Maintaining the microclimate in the maternity ward
28. Treating the udder before milking
29. Administration of vitamins A, D, E
30. Intrauterine administration of antiseptics after calving
31. Routine ultrasound examination of the breeding stock

A. Prevention of endometritis
B. Reducing the risk of hypovitaminosis and abortions
C. Reducing infertility
D. Reducing the incidence of mastitis
E. Prevention of respiratory and postpartum diseases

Answer: 1 – E, 2 – D, 3 – B, 4 – A, 5 – C

Question 2
Match the examination method and the corresponding pathology:

32. Rectal examination
33. Vaginoscopy
34. Ultrasound of the uterus and ovaries
35. Culture of vaginal discharge
36. Smear for cytology

A. Endometritis
B. Changes in the vaginal mucosa
C. Ovarian pathologies
D. Subclinical infection

E. Uterine atony

Answer: 1 – E, 2 – B, 3 – C, 4 – D, 5 – A

Question 3
Match the pathology and the appropriate treatment

37. Uterine subinvolution
38. Follicular cyst
39. Purulent endometritis
40. Retained placenta
41. Anovulation

A. Hormonal stimulation of ovulation
B. GnRH administration
C. Manual removal + antibiotic therapy
D. Administration of intrauterine antiseptics
E. Oxytocin or massage

Answer: 1 – E, 2 – B, 3 – D, 4 – C, 5 – A

Question 4
Match the stage of medical examination and its content:

42. Preparatory stage
43. Diagnostic stage
44. Treatment and preventive stage

D. Planning and collecting of relevant information
E. Formulating recommendations and conclusions

Answer: 1 – D, 2 – B, 3 – C, 4 – E, 5 – A

Question 5
Match the animal species with the singularity of the examination:

47. Cow
48. Horse
49. Sow
50. Goat
51. Camel

A. Consider multiple pregnancies when planning matings
B. Frequent monitoring of estrus, since heat is unnoticeable
C. Careful monitoring of fertilization, since the price is high
D. Consideration of the seasonality of sexual activity
E. Focus on the prevention of postpartum complications

Answer: 1 – E, 2 – C, 3 – B, 4 – A, 5 – D

Ordered-response questions

Question 1
Establish the correct order of steps for treating a cow with endometritis identified after a medical examination:

52. Ultrasound and smear
53. Making of diagnosis
54. Use of intrauterine drugs
55. Treatment monitoring
56. Repeated examination in 10–14 days
57.

1 → 2 → 3 → 4 → 5

Question 2
Determine the order of steps in case of subinvolution of follicular cyst in animal:

1. Confirmation of diagnosis using ultrasound
2. Administration of gonadotropic hormones
3. Examination of hormonal status
4. Ovulation control
5. Artificial insemination scheduling

1 → 3 → 2 → 4 → 5

Question 3
Determine the order of steps in case of subinvolution of the uterus after calving:

1. Rectal examination
2. Administration of oxytocin
3. Massage of the uterus through the rectum
4. Control of contractions
5. Conducting repeated diagnostics

1 → 2 → 3 → 4 → 5

Question 4
Determine the order of steps in case of mass detection of barrenness in cows:

1. Reproduction data analysis
2. Ultrasound and hormonal diagnostics
3. Hormonal therapy
4. Repeated insemination
5. Pregnancy monitoring
6.

1 → 2 → 3 → 4 → 5

Question 5
Determine the order of steps in case of retained placenta in animals:

1. Manual removal of the placenta
2. Using of intrauterine antiseptics
3. Systemic antibiotic therapy
4. Using of general tonics
5. Monitoring the restoration of reproductive function

Answer: 1 → 2 → 3 → 4 → 5

Open-ended tasks

Question 1
What hormone is most often used to treat follicular cysts in cows?

Answer: gonadotropin

Question 2
What method is used to diagnose uterine subinvolution in cows?

Answer: rectal examination

Question 3
What medicine is used to stimulate uterine contractions in postpartum endometritis?

Answer: oxytocin

Question 4
What is the name of the procedure for removing pathological contents from the uterus?

Answer: lavage

Question 5
What is the main method for control of treatment efficiency of reproductive pathology in cows?

1.2.1. Standard tasks for intermediate certification

1.2.2. Questions for the test

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.

1. Methods of sperm collection, their evaluation.
2. Sperm, its composition. Physiological types of sperm.

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.

1. Macroscopic and sanitary assessment of sperm quality
2. Assessment of sperm quality by density, activity, percentage of live and abnormal forms of spermatozoa

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.

1. Influence of environmental factors on spermatozoa

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

1.Oogenesis and spermiogenesis.

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

2.Minimum acceptable parameters of sperm suitable for dilution, storage and use.

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

3.Technology for thawing frozen semen, evaluation of stored semen.
4. Assessment of respiration intensity, concentration and survival rate of spermatozoa.

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

5. Fertilization. The essence, place and process of fertilization. Factors promoting fertilization. Promotion and survival of sperm in the female reproductive tract.
6. Long-term storage of sire sperm.

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

7. Development and implantation of the zygote, development of the embryo and fetus.
8. Species-specific features of animal spermatozoa.

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

9. Estrous cycle in female animals, its stages and phenomena.

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

10.Methods of artificial insemination of cattle, their comparative assessment.
11.Methods of artificial insemination of pigs, their comparative assessment.

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.

1. Organization and technology of artificial insemination of cows and heifers using the vizocervical method.
2. Organization and technology of artificial insemination of cows using the mano-cervical method.
3. Organization and technology of artificial insemination of pigs using non-fractional method.

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.

4. Organization and technique of artificial insemination of cows and heifers using the cervical method and rectal fixation of the cervix.

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.

5. Types and methods of natural insemination of animals, their veterinary and sanitary assessment and assessment of effectiveness.

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

6.Synthetic media for sperm dilution, their composition and purpose. Method and degree of sperm dilution.

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

7.Organization and technology of artificial insemination of birds.

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
8. Scientific principles of sperm storage and transportation.

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

1.Artificial insemination of mares.

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

2. Organization and technology of artificial insemination of ewes and goats.

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

3. Sexual reflexes. Coitus, its species-specific features.

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

4.Preparing female animals for insemination.

PC-6 ID-6 To know the methods and techniques of non-drug manipulations for the animal

5.Organization and technology of artificial insemination of pigs using the fractional method.

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

6. Feeding, handling and use of sires.

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

7. Short-term storage of sire sperm.

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

1. Sexual and anatomical-physiological maturity of the animal organism. The influence of handling on the animal development.

PC-10 ID-2 To be able to use specialized information databases when choosing ways for treat animal diseases

2. Anatomy and physiology of the reproductive system of female animals of different species.

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

3. Hormonal regulation of the estrous cycle

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-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

1. Neurohumoral regulation of reproductive function in female animals

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. Species-specific features of the estrous cycle in female 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

1. Safety precautions when handling sires.

PC-17 ID-2 To know the methodology of veterinary examination of animals in accordance with the actual methodological guidelines

2. Neurohumoral regulation of reproductive function in male animals.

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 essence and significance of artificial insemination in livestock.

1.2.3. Exam questions

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.

1. Oogenesis and spermatogenesis.
2. Sexual and physiological maturity of farm animals.
3. Estrus and heat.

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.

4. Methods of ovulation induction.
5. Ovulation, fertilization, implantation.
6. Estrous cycle, its species-specific features.

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.

7. Mechanism of regulation of the estrous cycle.
8. Prevention of mastitis in the postpartum period.
9. The importance of embryo transfer in intensifying reproduction.

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

10. The influence of pregnancy on the mother's body.
11. Methods for determining pregnancy.
12. Diagnosis of pregnancy.

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

13. Duration of pregnancy in livestock.
14. Labor, periods of labor and their duration.
15. Veterinary care during labor.

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

16. Care for the newborn and mother after childbirth.
17. Involution and subinvolution of the female reproductive organs.
18. Early pushing urge.

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

19. Position, presentation, position posture of the fetus during pregnancy and labor.
20. Placenta, its types and function.

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

21. Fetal membranes and amniotic fluid.
22. Mummification and maceration of fetus.
23. Toxicoses of pregnant animals.

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

24. Early control over the course of the postpartum period in cows.
25. Etiology of abortion and economic damage.
26. Methods for analyzing the causes of abortion.

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

27. Causes of dystocia.
29. Weak labor.
30. Forceful labor.

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

31. Cervical spasm.
32. Incomplete dilatation of the cervix, its diagnosis and treatment.
33. Etiology of animal infertility, economic damage.

ПК-$5_{ИД-2}$ 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

34. Consequences of inadequate feeding.
35. Gynecological screening of farm animals.
36. Barrenness, as a consequence of violation of artificial insemination, its prevention.

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

37. Compliance with safety precautions when diagnosing pregnancy and providing veterinary care.
38. Sperm spore methods.
39. Ejaculate volume and sperm composition.

PC-5 ID-4 To be able to administer drugs to the animals body in various techniques

40. Methods for assessing sperm.
41. Basic principles of obstetric care.
42. Peculiarities of cattle reproduction during housing.

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

43. Biological features of artificial insemination.
44. Causes of infertility.

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

45. Dilution of sperm and dilution medium.
46. Requirements for sperm dilution media.

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

47. Purulent catarrhal mastitis.
48. Prevention and treatment of mastitis during the dry period.
49. Differential diagnosis of mastitis.

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

50. Diagnosis of subclinical mastitis.

51. Treatment and prevention of subclinical mastitis.

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

51. Agalactia, hypogalactia, their etiology, pathogenesis.
52. Prevention of mastitis.
53. Prevention of mastitis in machine milking.

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

54. Differential diagnosis of infectious and invasive vestibulovaginitis.
55. Postpartum vaginitis and cervicitis.
56. Acute postpartum endometritis.

PC-6 ID-6 To know the methods and techniques of non-drug manipulations for the animal.

57. Cysts of the vestibule and vagina.
58. Chronic endometritis.

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

59. Myometritis and parametritis, salpingitis.
60. Lochiometra and pyometra.
61. Prevention of endometritis.

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

62. Ovarian hypofunction.
63. Atrophy and sclerosis of the ovaries.

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

64. Persistent corpus luteum.
65. Ovarian cysts.

PC-10 ID-2 To be able to use specialized information databases when choosing ways for treat animal diseases

66. Anaphrodesia and nymphomania.
67. The use of ganadotropic and steroid drugs to stimulate ovulation.
68. Fetal emphysema.

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

69. Torsion of the uterus.
70. Uterine prolapse.
71. Retention of placenta in cows.

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-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

72. Postpartum paresis, its diagnosis and treatment.
73. Timing and methods of insemination of ewes.
74. Fibrinous mastitis.

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

75. Etiology of mastitis and economic damage.
76. Serous mastitis.
77. Catarrh of the udder alveoli.
78. Catarrh of the cistern and milk ducts.
79. Prevention of mastitis in lactation period.

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

80. Prevention of abortion.
81. Vaginal prolapse.
82. Prevention of infertility.
83. Analysis of herd reproduction.
84. Storage and transportation of sperm.

PC-17 ID-2 To know the methodology of veterinary examination of animals in accordance with the actual methodological guidelines

85. Methods and techniques of artificial insemination.
86. Timing of insemination after labor and during estrus.
87. Methods of insemination in sows.

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

88. Infertility of congenital origin.
89.Infertility due to improper use.
90. Infertility of sires.

1.2.4. List of term paper topics

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 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 methods and techniques of non-drug manipulations for the animal.

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 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-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

1. Edema of pregnancy (HYDROPS GRAVIDARUM)
2. Nephropathy of pregnancy (NEPHROPATHIA GRAVIDARUM)
3. Eclampsia (ECLAMPSIA)
4. Hypokalemic paraplegia in pregnancy (PARAPLEGIA GRAVIDARUN)
5. Osteomalacia in pregnancy (OSTEOMALAGIA GRAVIDARUM)
6. Uterine hernia (HERNIA UTERI)
7. Uterine bleeding (UTERI,S.HAEMATOMETRA)
8. Early pushing urge
9. Vaginal inversion (INVERSIO VAGINAE)
10. Uterine torsion (TORSIO UTERI)
11. Malposition of the uterus (VENTROVERSIO ET VENTROFLEXIO UTERI)
12. Ectopic pregnancy (GRAVIDITAS EXTRAUTERINA)
13. Abortion (ABORTUS)
14. Weak contractions and pushing (HYPODYNAMIA UTERI)
15. Hyperdynamia uteri (HYPERDYNAMIA UTERI)
16. Narrowness of the vulva and vagina (VULVA ET VAGINA ANGUSTA)
17. Stenosis of uterine cervix (STENOSIS CERVICIS UTERI)
18. Dry labor (PARTUS SICCUS)
19. Retention of placenta (RETENTIO PLACENTAE S. RETENTIO SECUNDINARUM)
20. Rupture of the vulva, vagina, cervix, uterus (RUPTURA VULVAE ET PERINEI, VAGINAE, CERVICIS UTERI, UTERI
21. Inversion and prolapse of the uterus (INVERSIO ET PROLAPSUS UTERI)

22.Vulvitis (VULVITIS)
23. Vestibulitis (VESTIBULITIS)
24. Vaginitis (VAGINITIS)
25. Bartholin's duct cyst / Gartner's ducts cyst (BARTOLINITIS ET GARTNERITIS)
26. Neoplasia of the female reproductive tract
27. Cervicitis (CERVICITIS)
28.Induration of the cervix (INDURATIO CERVICIS)
29. Incorrect position of the cervix
30. Metritis (METRITIS)
31.Pyometra
32. Hydrometra and mixometer (HYDROMETRA ET MYXOMETRA)
33. Endometrial dystrophy
34.Hypotonia, atony, atrophy of the uterus (HYPOTONIA ET ATONIA UTERI,
ATROPHIA UTERI)
35. Estrous and postestrous bleeding from the uterus
36. Salpingitis and other diseases of the oviduct (SALPINGITIS)
37. Inflammation of the ovaries (OVARIITIS, S.OOPHORITIS)
38. Hypofunction of the ovaries (HYPHOPHUNCTIO OVARIORUM)
39. Ovarian atrophy (ATROPHIA OVARIORUM)
40. Ovarian sclerosis (SCLEROSIS OVARIORUM)
41.Persistent yellow body (CORPUS LUTEUM PERSISTENS)
42.Ovarian cysts (CYSTES OVARIORUM)
43. Sexual dysfunction
44.Infertility
45. Postpartum sepsis (SEPTICAEMIA ET PYAEMIA PUERPERALIS)
46. Subinvolution of the uterus (SUBINVOLUTIO UTERI)
47. Postpartum sapremia (SAPRAEMIA PUERPERALIS)
48. Postpartum paresis (COMA PUERPERALIS)
49. Hypokalemic paraplegia in postpartum period (PARAPLEGIA PUERPERALIS)
50.Mastitis (MASTITIS)
51.Swelling, trauma, cyst, neoplasm and atrophy of the mammary gland (OEDEMA, CONTUSIO, CYSTES, NEOPLASMA ET ATROPHIA UBERIS)
52.Agalactia, hypogalactia

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

Criteria for evaluating students` knowledge during seminar:

- **Mark «excellent»** - the student clearly expresses his point of view on the issues under consideration, giving appropriate examples.
- **Mark «good»** - the student have some errors in the answer.
- **Mark «satisfactory»** - the student have gaps in knowledge of the basic educational and normative material.
- **Mark «unsatisfactory»** - the student have significant gaps in knowledge of the basic provisions of the discipline, the inability to obtain the correct solution to a specific practical problem with the help of a teacher.

Criteria for evaluating students' knowledge during the test:

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

- **Mark «excellent»** – 25-22 correct answers.
- **Mark «good»** – 21-18 correct answers.
- **Mark «satisfactory» –** 17-13 correct answers
- **Mark «unsatisfactory»** – less than 13 correct answers

Criteria for evaluating students` knowledge during the test:

- **Mark «accepted»** must correspond to the parameters of any of the positive ratings («excellent», «good», «satisfactory»).
- **Mark «not accepted»** rating should correspond to the parameters of the «unsatisfactory» rating.
- **Mark «excellent»** – all types of educational work provided for in the curriculum have been completed. The student demonstrates the compliance of knowledge, skills, and abilities with the indicators given in the tables, operates with acquired knowledge, skills, and applies them in standard situations. At the same time, minor errors, inaccuracies, difficulties in analytical operations, transfer of knowledge and skills to new, non-standard situations may be made.
- **Mark «good»** – all types of educational work provided for in the curriculum have been completed. The student demonstrates the compliance of knowledge, skills, and abilities with the indicators given in the tables, operates with acquired knowledge, skills, and applies them in standard situations. At the same time, minor errors, inaccuracies, difficulties in analytical operations, transfer of knowledge and skills to new, non-standard situations may be made.
- **Mark «satisfactory»** – one or more types of educational work provided for in the curriculum have not been completed. The student demonstrates incomplete

compliance of knowledge, skills, and abilities with the indicators given in the tables, significant errors are made, a partial lack of knowledge, skills, and skills is manifested in a number of indicators, the student experiences significant difficulties in operating with knowledge and skills when transferring them to new situations. –

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

Criteria for evaluating students` knowledge during the examination:

- **Mark «excellent»** – all types of educational work provided for in the curriculum have been completed. The student demonstrates the compliance of knowledge, skills, and abilities with the indicators given in the tables, operates with acquired knowledge, skills, and applies them in various situations of increased complexity. At the same time, inaccuracies, difficulties in analytical operations, transfer of knowledge and skills to new, non-standard situations may be allowed. –
- **Mark «good»** – all types of educational work provided for in the curriculum have been completed. The student demonstrates the compliance of knowledge, skills, and abilities with the indicators given in the tables, operates with acquired knowledge, skills, and applies them in standard situations. At the same time, minor errors, inaccuracies, difficulties in analytical operations, transfer of knowledge and skills to new, non-standard situations can be made.
- **Mark «satisfactory»** – one or more types of educational work provided for in the curriculum have not been completed. The student demonstrates incomplete compliance of knowledge, skills, and abilities with the indicators given in the tables, significant errors are made, a partial lack of knowledge, skills, and skills are manifested in a number of indicators, the student experiences significant difficulties in operating with knowledge and skills when transferring them to new situations. –
- **Mark «unsatisfactory»** – the types of educational work provided for in the curriculum have not been completed. demonstrate incomplete compliance of knowledge, skills, and abilities given in the tables of indicators, significant errors are made, a lack of knowledge, skills, and skills are manifested for a large number of indicators, the student experiences significant difficulties in operating with knowledge and skills when transferring them to new situations.

Criteria for evaluating students` knowledge during on term paper:

- **Mark «excellent» -** the problem is identified and its relevance is justified; an analysis of various points of view on the problem under consideration was made and one's own position was logically stated; conclusions are formulated, the topic is fully disclosed, the scope is maintained; requirements for external design

have been met, basic requirements for course work have been met. • **Mark «good»** - shortcomings were made. In particular, there are inaccuracies in the presentation of the material; there is no logical consistency in judgments; the amount of course work is not met; there are omissions in the design, there are significant deviations from the requirements for course work.

• **Mark «satisfactory»** - the topic is only partially covered; there were factual errors in the content of the course work; there are no full conclusions, the topic of the course work is not disclosed

• **Mark «unsatisfactory»** - there is a significant misunderstanding of the problem in the course work, the topic is not fully covered, the scope is not maintained; external design requirements are not met.

6. 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.