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

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

Department of 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
Full-time education
Education starts in 2024

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

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

Saint Petersburg
2024

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**:

A) 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 (PP), 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 (credit, 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	PP	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 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	7	3	1		5

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 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	2		5
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 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	1	2	5

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 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

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 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	1		5

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 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
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$_{ид-1}$ 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	2	6

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 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	8	2	3		6

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 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	8	2	3	2	6

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 accordance with methodological guidelines, instructions, manuals, rules for the diagnosis, prevention and treatment of animals	8	2	3	2	6

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 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

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 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	8	2	2		6

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 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

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 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

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 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

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 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

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 reproduction in herd. Embryo transfer in cattle breeding.	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	4	7
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. Dyul'ger, G. P. Akusherstvo, ginekologiya i biotekhnika razmnozheniya koshek : uchebnoe posobie / G. P. Dyul'ger, E. S. Sedleckaya. — 2-e izd., ispr. i dop. — Sankt-Peterburg : Lan', 2021. — 168 s. (accessed: 04/27/2024).
2. Studencov A.P., SHipilov V.S., Nikitin V.YA., Petrov A.M., Dyul'ger G.P., Hramcov V.V., Preobrazhenskij O.N. Akusherstvo, ginekologiya i biotekhnika reprodukcii zhivotnyh. – SPb, Lan', 2019 – 548 s. https://e.lanbook.com/book/111907 (accessed: 04/27/2024).
3. Polyancev N.I., Mihajlova L.B. Akusherstvo, ginekologiya i biotekhnika razmnozheniya zhivotnyh. – SPB. Lan', 2019 – 448 s. https://e.lanbook.com/book/112061 (accessed: 04/27/2024).

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

b) additional literature:

1. Polyancev N.I. Praktikum po akusherstvu, ginekologii i biotekhnike razmnozheniya zhivotnyh. – SPB, Lan', 2016 – 272 s. https://e.lanbook.com/book/71726 (accessed: 04/27/2024).
2. Dyul'ger G.P., Hramcov V.V., Sibileva YU.G., Kemeshov ZH.O. Lekarstvennye sredstva, primenyaemye v veterinarnom akusherstve, ginekologii, andrologii i biotekhnike razmnozheniya zhivotnyh. – SPB, Lan', 2016 – 272 s. https://e.lanbook.com/book/75510 (accessed: 04/27/2024).
3. Sorokoletova V.M., Gorb N.N. Akusherstvo i ginekologiya. Bolezni organov reproduktivnoj sistemy sel'skohozyajstvennyh zhivotnyh invazionnoj i infekcionnoj prirody. – SPB, Lan', 2013 – 84 s. https://e.lanbook.com/book/44523 (accessed: 04/27/2024).

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 "SPBGUVM"
2. EBS "Publishing house "Lan"
3. EBS "Student Consultant"
4. Legal reference system "ConsultantPlus"
5. University information system "RUSSIA"
6. Full text database POLPRED.COM
7. Scientific electronic library ELIBRARY.RU
8. Russian Scientific Network
9. Electronic library system IQlib
10. Web of Science International Science Citation Index Database
11. Full-text interdisciplinary database of agricultural and environmental sciences ProQuest AGRICULTURAL AND ENVIRONMENTAL SCIENCE DATABASE
12. Electronic books from the publishing house "Prospekt Nauki" https://prospektnauki.ru/ebooks
13. 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)	*Specialized furniture:* tables, chairs.

	Classroom for conducting seminars, consultations and course assessment	*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	*Specialized furniture:* tables, chairs, special equipment, materials for preventive maintenance of specialized

	preventive maintenance of educational equipment	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
Full-time education.

Education starts in 2024

Saint Petersburg
2024

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

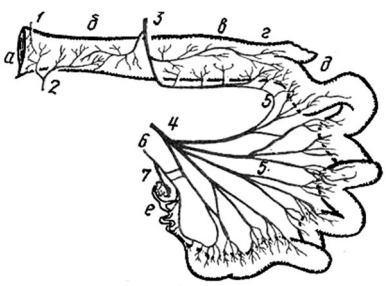
GPC-1. Is able to determine the biological status, normal clinical signs of organs and systems of the animal body.

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. What is spontaneous ovulation?
a: ovulation occurs only after coitus
b: ovulation that occurs regardless of coitus
c: ovulation due to sexual reflexes
d: ovulation occurring before coitus

2. In which case is the cervical canal closed:
a: during pregnancy
b: during the heat
c: in a healthy heifer
d: cervical canal is always closed

3. What is shown on the figure?



a: blood vessels of sow genitals
b: lymphoid vessels of mare genitals
c: cow genital nerves
d: all the above-mentioned

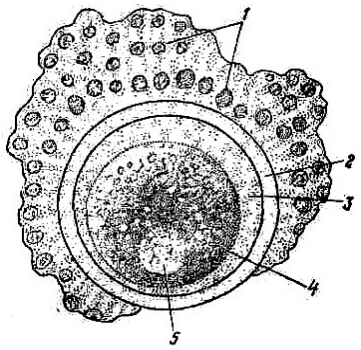
4. What is estradiol?
a: female sex hormone
b: pituitary hormone
c: male sex hormone
d: adrenal hormone

5. What is the duration of the fertilizing ability of an egg after ovulation?
a: 0,5-1 hour
b: 4-6 hours
c: 2-3 days
d: 14-18 hours

6. Which female reproductive organ does not have excretory gland ducts?
a: vaginal vestibule
b: vagina

c: cervix
d: uterine horns

7. What number is the corona radiata shown under?



a: 1
b: 2
c: 3
d: 4

8. What is «denudation»?
a: loss of the corona radiata
b: penetration of sperm through zona pellucida
c: penetration of sperm through vitelline membrane
d: pronuclei fusion

9. What factors determine the movement of sperm through the female reproductive tract?
a: positive rheotaxis
b: dynamics of coitus
c: movement of the oviduct epithelium cilia
d: type of insemination

10. What part of spermatozoon enters oocyte?
a: full spermatozoon
b: only head
c: head and mid piece
d: head and tail

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.

11. Why does an obstetrician place his knee under a goat's abdomen?

a: for fixation during examination
b: for relocation of the uterus and better palpation of the fetuses
c: to prepare for auscultation
d: for palpation of the mammary gland

12. How is pregnancy diagnosed using the rectal method when the uterus is deep in the abdominal cavity?
a: according to the condition of the ovaries
b: by palpating the bladder
c: according to the condition of the uterine arteries
d: according to kidney condition

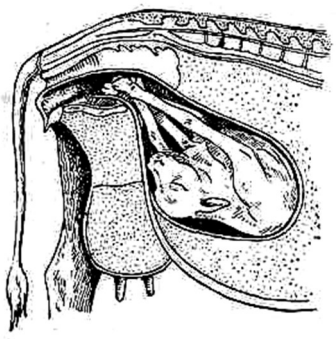
13. What type of placenta does a cow have?
a: epitheliochorial
b: cotyledonary
c: endotheliochorial
d: hemochorial

14. What is the softening of fetal tissue in the uterus called?
a: lithopedion
b: mummification
c: osteomalacia
d: maceration

15. What are the features of a normal sexual cycle?
a: ovulation
b: formation of the corpus luteum in the ovary
c: predominance of gestagens in the second phase of the cycle
d: all the above-mentioned
e: none of the above

16. Which stage is not part of the labour stage?
a: birth
b: dilation period
c: afterbirth delivery
d: postpartum period

17. What is the name of fetal position?:



а: dorsopubic position with posterior presentation
б: dorso transverse presentation
в: dorsopubic position with anterior presentation
г: ventro transverse presentation

18. What is the ratio of the longitudinal axis of the fetal body to the longitudinal axis of the mother's body?
a: presentation
b: position
c: posture

19. What does the mammary gland consist of?
a: muscle and glandular tissue
b: stroma and glandular tissue
c: mucous, muscular and serous membranes
d: connective and muscle tissue

20. What is the name of a cow that has not given birth in a calendar year?
a: infertile
b: farrow
c: in-calf
d: barren

21. How the estrous cycle changes due to follicular cysts?
a: lengthens
b: remains unchanged
c: shortens
d: terminates

22. In what position is the fetal head located with correct posture of the fetus?
a: maximum flexion
b: moderate flexion
c: moderate extension
d: maximum extension

23. What is characterized by the absence of dynamics of cervical dilatation in the presence of clinically pronounced labor?
a: primary weakness of labor
b: secondary weakness of labor
c: pathological preliminary period
d: incoordination of labor
e: excessive labor

24. Where are androgens produced?
a: in the ovary
b: in zona reticularis of adrenal gland cortex
c: in the testes
d: all the above-mentioned
e: none of the above

25. How do estrogens affect physiological processes?
a: enhance peristalsis of the uterus and fallopian tubes
b: enhance ossification processes
c: stimulate immune activity
d: all the above-mentioned

e: none of the above

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.

26. What organs belong to the female reproductive system?

a. labia, clitoris, vagina and vestibule, uterus, oviducts, ovaries.

b. scrotum, testis sac, testes.

c. preputium, penis, urogenital canal.

27 . Which female genitalia are external?

a. cervix, uterine body and uterine horns.

b. vagina, oviducts, ovaries.

c. labia, clitoris, vestibulum vaginae.

28. Which female genitalia are internal?

a. vulva, vestibulum vaginae glands.

b. vagina, uterus, oviducts, ovaries.

c. labia, vestibulum vaginae, clitoris.

29. What are the functions of the ovaries?

a. barrier, secretions.

b. protective, nutrition.

c. reproductive, hormonal.

30. What are the functions of the oviducts?

a. transport of spermatozoa and oocytes, ensuring fertilization and development of the zygote and embryo within several days.

b. delivery of the fetus during labor.

c. hormone synthesis and release.

31. What does the clitoris consist of?

a. body, neck and tail. The body of the clitoris is surrounded by a serous membrane.

b. glans, body, root, two corpora cavernosa. The body of the clitoris is surrounded by a fibrous membrane, the glans is covered with mucous membrane

c. parenchyma, cartilage. The parenchyma of the clitoris is surrounded by a mucous membrane, the head is covered with a serous membrane.

32. What is the structure of the vaginal vestibule?

a. the mucous membrane is surrounded by connective tissue and muscles.

b. the serosa is surrounded by the tunica albuginea and choroid.

c. the medulla and cortex are surrounded by a nerve plexus.

33. What are the structural features of the external genitalia in farm animals?

a. female ruminants do not have vestibulum vaginae; the vagina begins from the labia.

b. in sows and mares the clitoris is located in the upper corner of the genital opening, there are no vestibular glands.

c. in all females, except mares, the upper corner of the genital slit is rounded, and the lower is pointed; the corpus cavernosum is located in the lateral walls of the vestibule of the vagina of mares.

34. What is the structure of the vagina in female farm animals?

a. The vaginal wall consists of mucous, muscular and serous layers.

b. The vaginal wall consists of albumen, muscular and choroid.

c. The vaginal wall consists of skin, fascia and endothelium.

35. What parts does the uterus of farm animals consist of?

a. root, vestibule, oviducts.

b. ampulla, urethra, ovary.

c. cervix, body, horns.

36. What layers form the uterine wall?

a. albuminous, fibrous, glandular.

b. endometrium, myometrium, perimetrium.

c. aqueous, vascular, urinary.

37. What uterine arteries pass through the broad ligament of the uterus?

a. magna, lata and parva.

b. ante, medium and retro.

c. pudenda and testicularis.

38 What are the structural features of the cervix in farm animals?

a. In sows, the cervix is short; in sheep, the cervical mucosa does not have folds.

b. in cows, the mucous membrane of the cervix has 3-4 circular folds, in sheep - 5-7 folds; in sows cervix has numerous folds arranged in a checkerboard pattern.

c. in mares, the cervix is up to 20 cm long, mucous layer has many circular folds.

39. What hormones are produced in the ovaries; their physiological functions.

a. estrone, estriol, estradiol, progesterone, relaxin. Participate in the neurohumoral regulation of reproductive function.

b. cortisol, insulin, thyroxine. Regulate digestion

c. oxytocin, vasopressin, sinestrol. Regulate hematopoiesis.

40. Types of the corpus luteum and its function.

a. latent. Produces testosterone.

b. simple. Produces oxytocin.

c. of estrous cycle, of pregnacy, persistent. Produces progesterone.

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. How is udder massage performed for specific mastitis?
a: from top to bottom
b: from bottom to top
c: do not performed
d: in any direction

2. What is the diameter of the milk duct in healthy cows?
a: 0,5 -1 mm
b: 1,5 -2 mm
c: 2,5-4 mm
d: 5-6 mm

3. The most characteristic symptom of chronic catarrhal mastitis?
a: increased temperature of the udder skin
b: mucus in milk
c: udder swelling
d: anorexia

4. What is MMA?
a: metritis-mastitis-actinomycosis
b: mastitis-myocervicitis-agalactia
c: metritis-mastitis-agalactia
d: metritis-mastitis-abortion

5. For what purpose are dilatators used?
a: to relax sphincter tone

b: instead of udder catheter
c: for nipple puncture
d: for improvement of blood circulation in the nipples

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

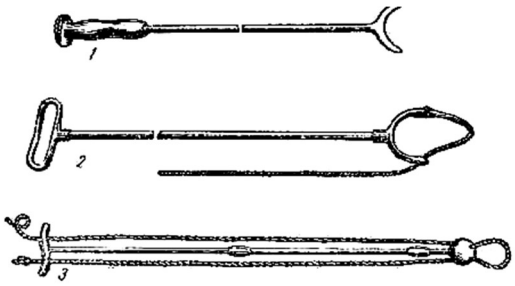
6. What should be done if casein clots accumulate in the teat sinus?
a: insert udder catheter
b: perform an udder massage
c: enter a warm 2-3% soda-salt solution
d: inject an antibiotic into the udder tissue

7. What are the main groups of diseases of the female genitalia?
a: inflammatory and non-inflammatory processes
b: infectious and invasive
c: uterus and ovaries diseases
d: infectious and non-infectious

8. What are the most characteristic clinical signs of corpus luteum cyst?
a: virilization
b: nymphomania
c: doughy ovary consistency
d: heat

9. What are the clinical signs of ovarian hypofunction?
a: increase in the duration of the estrous cycle
b: estrous cyclicity does not change
c: ovaries are enlarged
d: no corpus luteum or follicles on the surface of the ovaries

10. What is the function of the obstetrical instruments depicted on the figure?



a: for vaginal examination
b: for repulsion and extraction of the fetus
c: for separating skin from soft tissue and bones
d: for fetotomy

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

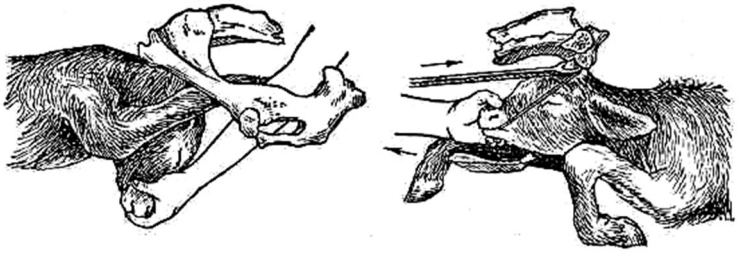
11. What is the use of suppositories for inflammatory processes in the uterus?
a: for myometrial contraction

b: as local etiotropic therapy
c: as a general tonic
d: to improve immunity

12. What disease causes nymphomania?
a: ovarian cysts
b: persistent corpus luteum
c: ovarian hypofunction
d: endometritis

13. What hormone increases in the blood in the presence of a persistent corpus luteum?
a: chorionic gonadotropin
b: oxytocin
c: progesterone
d: folliculin

14. What manipulation is shown in the picture?

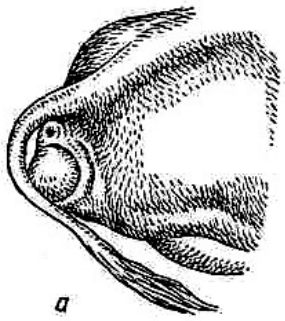


a: correction of a displaced fetal head
b: pushing the fetus into the uterus
c: straightening the bent limbs of the fetus
d: fetotomy

15. Which method is not used to stimulate the removal of the placenta?
a: operative
b: medication
c: cesarean section
d: manual

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

16. What pathology is shown on the figure?



a: complete vaginal prolapse
b: incomplete vaginal prolapse
c: uterus prolapse
d: meconium passage

17. What is the method of introducing amniotic fluid to prevent placenta retention in cows?
a: per os
b: intrauterine way
c: intramuscular way
d: subcutaneous administration

18. With subinvolution of the uterus, the following accumulate in its cavity:
a: fetus
b: lochia
c: pus
d: mucus

19. What signs of a mild form of postpartum paresis?

a: bending of the head and limbs, protruding tongue, unconsciousness, lack of pain sensitivity
b: S-shaped bend of the neck when lying down, unsteady gait and muscle tremors, weakening or lack of appetite
c: agitation, fever, convulsions
d: increased heart rate, tachypnea, increased temperature, increased pain and tactile sensitivity

20. What is a reliable sign of pregnancy?
a: absence of estrous cycle
b: increase in uterine size
c: increase in abdominal volume
d: presence of a fetus in the uterus

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. Methods for removing an unseparated placenta from the uterus:
a: Milovanov`s method
b: pulling by the umbilical cord

c: Ivanov`s method
d: manual separation and release of placenta

22. What is characteristic of postpartum endometritis?
a: uterine subinvolution
b: uterus engorgement
c: disruption of milk flow
d: retention of placenta

23. What does not happen during pregnancy?
a: increase in uterine size
b: uterine softening
c: changes in response to palpation
d: uterine compaction
e: uterine shape changes

24. What is the most severe complication in childbirth with breech presentation?
a: untimely water breaking
b: weakness of labor
c: traumatic injury of the fetus
d: umbilical cord prolapse
e: prolapse of the leg

25. In what case will the prognosis be favorable for delayed pregnancy?
a: if the disease is observed in the first half of pregnancy
b: the closer the birth, the more favorable the prognosis
c: if the disease is observed long before birth
d: in any case the prognosis is unfavorable

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

26. What are the stages of follicle development?
a. primordial, primary, secondary, preantral, antral.
b. small, medium, large.
c. morula, blastula, gastrula.

27. What are the stages of ovum development?
a. luteal, follicular, aging.
b. primordial germ cell, oogonia, primary oocyte, secondary oocyte, ovum.
c. zygote, embryonic, fertile

28. What organs are part of the male reproductive system?
a. ovaries, oviducts, uterus.
b. mullerian canal, vagina and vestibule.

c. scrotum, testes and their appendages, sperm ducts, urethra, accessory sex glands, penis and prepuce.

29. What do the testes consist of?
a. serous and muscular membranes, parallel, long and loop-shaped tubules.
b. mucous and fibrous membranes, tubular, thin and efferent tubules.
c. epididymis, seminiferous tubules, tunica albuginea, rete testis, septa

30. What are the functions of the testes?
a. hematopoiesis, gas exchange
b. barrier, secretions
c. reproductive, hormonal

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

31. What are the species-specific structural features of the sperm ducts?
a. the stallion forms an s-shaped bend above the bladder.
c. The sperm ducts in rams, bulls and goats above the bladder form ampoules, which are filled with sperm before mounting the male.
d. A boar's sperm ducts have a diameter of 5 cm.

32. What are the accessory glands of male reproductive system?
a. Bartholin's, sebaceous, sweat
b. prostate, ampula, Cowper`s gland
c. vestibular

33. What is the meaning of prostate secretion
A. transfers sperm to an anabiotic state
b. reduces sperm activity and density
V. contains enzymes, f2-alpha prostaglandins, which cause contraction of the muscles of the uterus, thins sperm, increases the volume of ejaculate

34. What are the functions of the bulbourethral glands secretion?
a. contains proteins, lipids, sugars and is a nutrient medium for sperm.
b. flushes the urogenital canal from residual urine before the passage of sperm.
c. regulation of osmotic and oncotic pressure in sperm.

35. Penis structure
a. body, tail, uterine.
b. glans, body, root, corpora cavernosa, tunica albuginea.

c. base, parenchyma, tortuous canal.

36. What is the structure of the urethra (urogenital canal)
a. has abdominal and uterine sections. the wall consists of serous and protein membranes.
b. has thoracic and posterior section. the wall consists of endothelium and parenchyma.
c. has membranous and penile sections. the wall consists of a mucous membrane surrounded by the corpora cavernosa and muscles.

38. What stages of spermatogenesis?
a. budding, sporulation.
b. multiplication, growth, maturation, metamorphosis.
c. aging, resorption.

39. When is an obstetric examination performed?
a. during pregnancy, labor and the postpartum period.
b. when the female reaches sexual maturity.
c. when the female reaches physiological maturity.

40. In what cases is obstetric examination performed during labor?
a. in all cases of labor.
b. if there are prerequisites for research.
c. at the first 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.

1. What is fetal posture?
a. relation of its moving parts in the birth canal.
b. relation of the longitudinal axis of the fetal body to the longitudinal axis of the dam body.
c. relation of the fetal head to its body.

2. What is fetal presentation?
a. position of the fetus relative to the dam dorsum

b. position of the moving parts of the fetal body to its body.
c. position of any part of the fetal body to the entrance to the birth canal.

3. What is the correct presentation of the fetus?
a. dorso transverse.
b. anterior and posterior.
c. latero transverse.

4. What is fetal position?
a. relation between the dorsum of the fetus and the pelvis wall of the dam.
b. relation between the dorsum of the fetus and abdominal wall of the dam.
c. relation between the dorsum of the fetus to the entrance of the birth canal.

5. What is the correct fetal position?
a. dorso sacral.
b. dorso iliac.
c. dorso pubic.

6. What is fetal articulation?
a. relation of the moving parts of the fetal body to the entrance to the pelvis.
b. relation of the moving parts of the fetal body to the mother's back.
c. relation of the moving parts of the fetal body to its own 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.

7. How long does the birth of fetus last in mares?
a. up to 6 hours.
б. up to 12 hours.
в. up to 15 minutes.

8. How long does the birth of fetus last in mares?
a. up to 30 minutes.
b. up to 6 hours.
c. up to 15 minutes.

9. How long does the birth of fetus last in ewes?
a. up to 2,5 hours.
b. up to 6 hours.
c. up to 12 hours.

10. How long does the birth of fetuses last in cows?
a. up to 6 hours.
b. up to 30 minutes.
c. up to 12 hours.

11. How long does the birth of fetuses last in doe-rabbits?
a. up to 6 hours.
b. up to 1 hour.
c. up to 15 minutes.

12. How long does the birth of fetuses last in dogs and cats?
a. up to 8 hours.
b. up to 30 minutes.
c. up to 12 hours.

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.

13. What is the purpose of obstetric examination in the postpartum period?
a. Determining the possibility of insemination.
b. Determination of the course of involution of the genital organs and diagnosis of diseases.
c. Diagnosis of pregnancy.

14. What is a gynecological examination?
a. Study of the genital organs of infertile females.
b. Examination of the genital organs of pregnant females.
c. Study of females upon reaching sexual maturity.

15. What is the average duration of pregnancy in cows?
a. 114 days.
b. 285 days.
c. 340 days.

16. What is the average duration of pregnancy in mares.
a. 285 days.
b. 150 days.
c. 336 days.

17. What is the average length of pregnancy in cows.
a. 150 days.
b. 340 days.
c. 114 days.

18. What is the average duration of pregnancy in ewes and nanny-goats.
a. 285 days.
b. 150 days.
c. 114 days.

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

19. What is andrological examination?
a. andrological examination is the study of male reproductive system.
b. andrological examination is a study of digestive system
c. andrological examination is a study of the respiratory system

20. What reflexes are assessed during andrological examination of sires?
a. ear, eye, corolla.
b. tactile and pain sensitivity.
c. locomotor, hugging, erection, copulation, ejaculation.

21. What methods are used for a complete andrological examination?
a. percussion, auscultation, determination of the frequency of contractions of the scar.
b. anamnesis collection, palpation, rectal examination, sonography, assessment of sperm quality, analysis prepuce samples for bacteriological and serological tests.
c. X-ray, cardiography, laparoscopy.

22. What organs are examined rectally during andrological examination?
a. kidneys and adrenal glands
b. rectum, anus.
c. pelvic part of the urethra, the prostate gland, the ampoules of the sperm ducts and the bladder.

23. How are studies of innate sexual reflexes in males carried out?
a. after fixation
b. after anesthesia according to the method of Voronin I.I.
c. during coitus or when receiving sperm.

24. How is the penis examined in bulls?
a. during erection, or using anesthesia according to the method of Voronin I.I.
b. after fixation of the animal.
c. during urination.

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.

25. What methods are used to examine the scrotum and prepuce?
a. palpation, sonography.
b. X-ray, rectal examination.
c. laparoscopy, percussion, auscultation.

26. What clinical methods are used in breast examination?
a. palpation, visual assessment of milk.
b. auscultation, percussion.
c. radiography, cardiography.

27. When are mammary gland examinations performed in lactating cows?
a. once a quarter during lactation.
b. once a month before diagnosing subclinical mastitis and daily after the machine milking operator or animal owner consults a doctor.
c. upon transfer to the maternity ward.

28. What is the peculiarity of examining the mammary gland in dairy cows?
a. carried out every milking.
b. carried out twice: before and after milking.
c. carried out three times with an interval of 10 minutes.

29. How to palpate the udder?
a. palpation is carried out with both hands, palpating each quarter of the udder separately.
b. palpation is carried out with one hand.
c. palpation is carried out with arrhythmic thrusts of the hand applied to the skin of the udder.

30. How to palpate the nipple and its cistern.
a. palpation is carried out with both hands, pressing the nipple in its quarter.
b. nipple is grabbed at the base with the index and thumb and removed by palpating it towards the apex.
c. nipple and its cistern are palpated.

31. How to determine the patency of the nipple canal
a. catheterization.
b. thick milky stream.
c. by the amount of milk milked in one minute.

32. How is a visual assessment of mammary gland secretion performed?
a. Petri dishes, the color, consistency, presence and nature of inclusions are determined.
b. in test tubes. Determine smell and taste.
c. by straining. Determine the contamination and nature of impurities.

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

33. In what cases are medicinal substances injected into the uterus?
a. retained placenta, endometritis, metritis.
b. hepatitis, hepatodystrophy, anemia.
c. osteomalacia, osteoporosis, hypovitaminosis.

34. What instrument is used to introduce medications into the uterus and vagina?
a. trocar, fetotome, obstetric stick.
b. Janet syringe, Esmark irrigator.
c. forceps, elastrator, keratoscope.

35. What is pathogenetic therapy?
a. normalization of homeostasis and function of organs and tissues through the body's regulatory and protective systems.
b. this is an attack of the immune system against the organs and tissues of the body’s own, resulting in their structural and functional damage.
c. technical means with which the doctor performs various surgical techniques on the organs and tissues of a living animal.

36. What is the effect of novocaine during blockades?
a. immunostimulating, neuroendocrine, antiviral.
b. antioxidant, antimicrobial, regenerative.
c. antihistamine, antitoxic, anesthetic.

37. What solution is used to prepare novocaine solution for intravenous injections?
a. Ringer's solution.
b. saline solution.

c. blood serum.

38. What rate of administration of novocaine during intravenous injections into horses and cattle should not exceed:
a. 30-40 ml per minute.
b. 5-10 ml per minute.
c. 15-20 ml per minute.

39. What percentage and dose of novocaine for injection is:
a. 0.5% 20 ml or 1% 10 ml per 100 kg body weight.
b. 1-2% - 5 ml per 1 kg of body weight.
c. 5-10% - 10 ml per 1 kg of body weight.

40. For what purpose is Vaseline used when obtaining sperm?
a. lubricate the tube.
b. lubricate the sperm receptacle.
c. lubricate the inner surface of the artificial vagina chamber.

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. What is the use of 2.9% sodium citrate solution?
a. for long-term sperm storage.
b. for thawing of sperm.
c. for instruments sterilization.

2. How to determine the alcohol concentration?
a. using an alcohol meter.
b. using weighing.
c. using burning.

3. What is used to disinfect vaginal speculum?
a. 70% alcohol.
b. potassium permanganate diluted 1: 1000.
c. 4% caustic soda solution.

4. What concentrations of furatsilin solution being used when inseminating cows?
a. 1:5000.
b. 1: 10000.

c. 1:100.

5. For what purpose is furatsilin solution used during artificial insemination?
a. for thawing and liquefying of sperm.
b. for sanitizing of the vagina before introducing sperm.
c. for the sanitation of the external genitalia before sperm injection.

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

15. What is used for sanitary treatment of cryobiological glassware?
1 70% ethyl alcohol.
2. 2-3% sodium bicarbonate solution.
3. 3% alcohol solution of iodine.

6. What is the technique for making paper filters?
A. cut out a quadrangle in accordance with the dimensions of the funnel, arrange it diagonally so that a triangle is formed.
b. cut out a triangle according to the size of the funnel.
V. cut out a quadrangle in accordance with the dimensions of the funnel, arrange it diagonally to form a triangle and cut off the top of the triangle for better passage of liquid.

7. What materials are used to make tampons?
A. white absorbent cotton wool and gauze.
b. filter paper.
V. cotton wool is non-hygroscopic.

8. What are tampons impregnated with to disinfect artificial vaginas?
A. 70% alcohol.
b. liquid nitrogen.
V. isotonic sodium chloride solution.

9. How are dry cotton-gauze swabs disinfected?
a. 3% alcohol solution of iodine.
b. in oven at 130°C for 60 minutes.
c. 0.02% furatsilin solution.

10. What are gauze wipes used for?
a. for removing granules from Dewar flasks.
b. for flaming devices.
c. for wiping devices and instruments from residues of Vaseline, saline solution, etc.

11. What structure does an artificial vagina have for taking sperm from a bull, boar, stallion and ram?

a. tube, rubber chamber, sperm receptacle.
b. A 25 cm long probe with two electrodes at the end and a power supply.
c. leather case with a diameter of 5 cm and a length of 40 cm.

12. What methods are used to disinfect an artificial vagina?
a. flaming.
b. ultraviolet irradiation specialist.
c. autoclaving, boiling in distilled water, using 70% rectified alcohol.

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

13. How to inject air into an artificial vagina?
a. to use a pump to compress the chamber walls.
b. to pour 500 ml of water through the pipe.
c. close the pipe and heat the artificial vagina to a temperature of 60-70 °C.

14. Which methods of sperm collection are classified as surgical?
a. massage technique, electroejaculation method
b. digital manipulation method, fistula method.
c. sperm collection after neutering or slaughter of an animal, aspiration of sperm from the epididymis.

15. 15. For which animals is the manual method of obtaining sperm used?
a. dogs and fur-bearing animals.
b. boars.
c. stallions.

16. Which methods involve obtaining ejaculate from the vagina after intercourse?
a. urethral.
b. surgical.
c. vaginal.

17. Which methods of sperm collection are classified as urethral?
a. vaginal.
b. surgical.
c. digital manipulation method, urethral catheterization, massage technique, electroejaculation, artificial vagina.

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

18. What method is used to obtain sperm from bulls with diseased limbs and perverted sexual reflexes?
A. urethral catheterization.
b. rectal massage.

V. fistula method.

19. Which method is most often used to obtain sperm from bulls?
a. artificial vagina method.
b. manual manipulation technique.
c. castration.

20. Which method is used to obtain sperm from a boar?
a. electroejaculator method.
b. urethral catheterization.
c. artificial vagina method.

21. What methods of sperm quality examination are mandatory at artificial insemination facilities?
a. evaluation of spermatozoa mobility.
b. evaluation of live and dead spermatozoa patio.
c. evaluation of spermatozoa concentration.

22. What is the normal volume of bull ejaculate?
a. 50-100 ml
b. 1-2 ml
c. 6-10 ml

23. When is sperm considered thick?
a. when there is almost no space between spermatozoa in the field of view.
b. when the space between spermatozoa is well defined.
c. when the space between spermatozoa exceeds the length of the sperm.

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

24. What dye is used to determine the intensity of sperm respiration?
a. congo red.
b. eosin.
c. methylene blue.

25. What does "sperm concentration" mean?
a. the number of spermatozoa in 1 ml of semen.
b. the number of sperm with PPR in the ejaculate.
c. the number of live spermatozoa in the ejaculate.

26. When is spermatozoa survival rate being determined?
a. immediately after receiving sperm.
b. before freezing.
c. after a certain storage period.

27. What is the purpose of liquefying sperm?
a. to increase sperm volume and maintain fertilizing capacity during storage.
b. to ease movement of spermatozoa in the reproductive tract.
c. to increase the fertility of females.

28. Dilution of boar sperm
a. 2-10 times.
b. 50 times.
c. 20 times.

29. What components of sperm liquefaction media increase sperm resistance to rapid cooling and storage?
a. lactose, sodium citrate.
b. deionized water, milk.
c. lecithin, chicken egg yolk.

30. How long can diluted boar semen be stored at a temperature of 18-20 ° C?
a. up to 24 hours
b. up to 72 hours
c. up to 60 days.

31. What is equilibration?
a. equalization of the osmotically active substances and glycerol concentrations between the diluent and sperm plasma.
b. process of sperm sedimentation after sperm liquefaction.
c. saturation of liquefied sperm with carbon dioxide.

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

32. What kind of water is used to prepare sperm liquefaction media?
a. deionized water.
b. artesian water.
c. mineral water with a high content of hydrocarbonates.

33. What hormone induces ovulation?
a. gonadotropic
b. follicle-stimulating
c. lactotropic

34. What hormone is secreted by the corpus luteum formed at the site of the burst follicle?
a. luteinizing
b. follicle-stimulating hormone
c. progesterone

d. none of the above

35. Where does the metamorphosis stage of spermatogenesis occur?
A. seminal vesicle lobules
b. in the straight tubule
V. in the processes of syncytium
d. in the ductus epididymidis

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.

36. What factor explains the long-term preservation of sperm viability in the epididymis?
a. low temperature
b. acidic environment
c. large amount of circulating blood

37. How does the temperature of the scrotum differ from body temperature?
a. is lower by 1-2 degrees
b. is 8-10 degrees higher
c. is 3-4 degrees higher
d. is 3-4 degrees lower

38. How are oogonia divided?
A. by meiosis
b. by mitosis

39. What is the number of divisions in the maturation period of oogenesis?
a. 2
b. 1
c. 0

40. What is the postnatal period?
a. the period of organ growth
b. the period from birth to death
c. the period from birth to physiological maturity

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. What determines the proteolytic chemical properties of the trophoblast?
a. acid
b. trypsin-like enzymes

c. embryotroph

2. As a result of cell atrophy in the amnion navel the following structures are formed:
a. trophoblast and amnion
b. superficial and internal

3. After the appearance of villi, the trophoblast becomes:
a. chorion
b. protrophoblast
c. prochorion

4. From what is the amniotic membrane formed from?
a. from protrophoblast
b. from the amnion
c. from trophoblast

5. How does the amount of fetal fluid change during gestation?
a. decreases
b. increases

6.What is allantois formed from?
a. from the amnion
b. from the primitive gut
c. from the neural tube

7. Allantois is connected to the bladder through:
a. urachus
b. urinary duct
c. all the above-mentioned
d. none of the above

8. What is the most superficial membrane of a mammalian fetus?
a. amnion
b. chorion
c. allantois

9. What does the placenta develop from?
a. fetal choroid
b. uterine mucosa
c. fetus choroid and uterine mucosa

10. What do caruncles mainly consist of?
a. dense network of blood vessels
b. connective tissue

c. follicular epithelium

11. What does the umbilical cord consist of?
a. urachus
b. umbilical vessels and the remnant of the umbilical sac
c. urachus, umbilical vessels and remnant of the umbilical sac
d. urachus and umbilical vessels

12. What is an embryotroph?
a. vagina epithelium secretion
b. uterine epithelium secretion
c. placenta secretion

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

13. What is the temperature of the water filling the artificial vagina?
a. 40-50
b. 60-70
c. 40-42
d.40-70

14. For which sires is the method of obtaining sperm by massaging the vas deferens ampoules suitable?
a. bulls
b. boars
c. stallions
d. dogs

15. What method of obtaining sperm was developed by I.I. Ivanov
a. the sponge technique
b. the vaginal method
c. the manual method
d. the artificial vagina method

16. What is the optimal schedule for obtaining semen from boars?
a. 1 euculation per week
b. 1 euculation per 3 days
c. daily
d. 1 euculation per 2 days

17. For which sires the fistula method of obtaining sperm being used?
a. boars
b. stallions
c. bulls

d. dogs

18. What solution is used to prepare an artificial vagina?
ф. potassium permanganate
b. 5% sodium bicarbonate solution
c. 2.9% sodium citrate
d. 3% sodium bicarbonate solution

19. What voltage is used to obtain sperm from a bull using electroejaculator?
a. 0.6-0.7 A
b. 5-6 V
c. 2-4 V
d. 0.3-0.8 A

20. For which sires is the manual method of obtaining sperm suitable?
a. dogs
b. boars
c. stallions
d. rams

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

21. Who designed the balloon-type artificial vagina?
a. A.V. Morozov
b. O.A Selivanov
c. I.I. Rodin
d. I.I. Ivanov

22. From what age is it possible to obtain sperm from rabbits
a. from 6 months
b. from the year
c. from 1.5 years
d. from 8 months

23. What is the consistency of bull semen?
a. creamy
b. similar to milk
c. watery

24. What is the acceptable number of non-pathogenic bacteria in one dose of sperm?
a. 450
b. 400
c. 300

d.500

25. What is the recovery time for sperm activity in diluted sperm after heating?
a. 3 min
b. 30 sec
c. 5 minutes
d. 7 min

26. What is a sign of oligospermia?
a. grayish color
b. bluish color
c. yellowish color
d. light white color

27. What is the temperature of the pipette for measuring the volume of sheep/bull ejaculate?
a. 30-33 degrees
b. 30-35 degrees
c. 28-30 degrees
d. 40-42 degrees

28. What is the volume of ejaculate from a stallion in ml?
a. 10-1000
b. 500
c. 30-100
d. 5-10

29. What density of sperm is acceptable for use in a bull?
a. C
b. G and S
c. G
d. R

30. Who developed optical standards for boars?
a. Rumyantsev
b. Parshutin
c. Students
d. Serdyuk

31. What is the minimum permissible motility of stallion sperm?
a. 5b
b. 8b
c. 7b
d. 4b

32. What is the acceptable smell of ram sperm?
a. without smell
b. with the smell of grease
c. lactic
d. very specific

33. What is the duration of the estrous cycle in cows?
a. 26-30 days
b. 18-22 days
c. 16-20 days

34. Which animals are polytocous?
a. cattle
b. goats
c. horses

35. Which animals are monotocous?
a. cattle
b. sheep
c. horses
d. pigs

36. How long does lactation last on average in cows?
a. 200-220 days
b. 306-310 days
c. 160-190 days

37. What type of uterus in dogs?
a. duplex
b. bicornuate
c. simplex

38. What type of uterus do primates have?
a. bicornuate
b. duplex
c. simplex

39. How long does pregnancy last in cows?
a. 9 months
b. 10 months
c. 11 months

40. What hormone is synthesized by the corpus luteum?

a. estrogen
b. progesterone
c. testosterone

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. Which stages of the reproductive cycle are classified according to Heape?
a. proestrus, oestrus, diestrus
b. stage of excitation, inhibition, balancing
c. proestrus, estrus, metestrus, diestrus.

2. What phenomena are identified in the stage of excitation?
a. heat, general reaction, ovulation
b. heat, sexual arousal
c. heat, ovulation

3. What is the pH of the mucus released from the genitals during estrus?
a. 6.0-6.5
b. 7.1-8.0
c. 6.5-7.0

4. What is estrus?
a. a process accompanied by the secretion of mucus from the genital tract, consisting of the secretion of the uterine and cervical glands, as well as the glands of the vestibule of the vagina
b. a change in the behavior of the female that occurs in connection with the phases of follicle maturation
c. the female showing interest in the male, adopting the “lordosis” pose

5. What is the process of follicle death called?
a. atrophy
b. malnutrition
c. atresia

6. What is induced ovulation?

a. ovulation occurs after coitus
b. ovulation is spontaneous, regardless of coitus

7. Which animals ovulate spontaneously?
a. camels, cats, cows, sheep
b. cats, dogs, rabbits
c. cows, mares, goats

8. What does the corpus luteum synthesize?
a. luteinizing hormone, FSH
b. progesterone
c. estrogens, progesterone

9. What are the sexual cycles?
a. full-fledged
b. inferior
c. full and defective

10. Who are polycyclic animals?
a. animals with short equilibration stages
b. animals with a long equilibration stage

11. Who are monocyclic animals?
a. pigs
b. dogs, cows, cats
c. dogs
12. What gonadotropic hormones are produced by the pituitary gland
a. FSH, progesterone, T4
b. Luteinizing hormone, lipotropin, FSH
c. estrogens, oxytocin, testosterone

13. What is the duration of the estrous cycle in a cow?
a. 30 days
b. 18-22 days
c. 15-20 days

14. What is the length of the mare's estrous cycle?
a. 20-21 days
b. 19-25 days

c. 18-24 days

15. What happens under the influence of gonadotropic hormones
a. FSH – growth and maturation of follicles; Luteinizing hormone - ovulation and formation of the corpus luteum occurs; lipotropin – regulates the function of the corpus luteum and stimulates milk production during lactation
b. FSH - ovulation and formation of the corpus luteum occurs; Luteinizing hormone - regulates the function of the corpus luteum and stimulates milk production during lactation; lipotropin - growth and maturation of follicles
c. FSH – regulates the function of the corpus luteum and stimulates milk formation during lactation; Luteinizing hormone – growth and maturation of follicles; lipotropin - ovulation and formation of the corpus luteum

16. Which accessory gland is developed in dogs?
a. prostatic
b. bulbous
c. vesicular

17. What is the volume of ejaculate in a ram?
a. 2-3 ml
b. 5-7 ml
c. 0.5-1.0 ml

18. How long does the dry period last?
a. 1 month
b. 3 months
c. 2 months

19. How long does the transition period last?
a. 6 weeks
b. 8 weeks
c. weeks

20. What is the volume of ejaculate in a boar?
a. up to 1000ml
b. up to 2000ml
c. up to 600 ml

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

21. What characterizes catarrhal endometritis?
a. lesion of the uterine mucosa and secretion of mucous exudate
b. inflammation of the uterine mucosa with the deposition of fibrin clots on its surface
c. inflammation of the serous membrane of the uterus

22. In what form of endometritis is rectal massage of the uterus contraindicated?
a. catarrhal
b. catarrhal-purulent
c. fibrinous

23. For what purpose is oxytocin used in the treatment of endometritis?
a. as antibacterial therapy
b. to enhance uterine contractions and remove exudate from its cavity
c. as a pain reliever

24. How is postpartum diphtheritic metritis characterized?
a. severe inflammation with the deposition of fibrin in the thickness of the uterine wall, followed by necrosis and disintegration of its tissues
b. acute inflammation of the uterus with putrefactive decay of its tissues
b. severe general pathological process with signs of inflammatory and degenerative changes in many organs and tissues of the body

25. What are the symptoms of diphtheritic vestibulitis and vaginitis?
a. hyperemia, swelling, soreness, copious and cloudy mucous discharge from the vulva
b. hyperemia, edema, painful erosion and ulcers, discharge of exudate mixed with pus
c. increased general body temperature, necrotic ulcers, discharge of ichorous exudate

26. What is postpartum parametritis?
a. inflammation of the broad uterine ligaments and paravaginal tissue
b. septic process, accompanied by the formation of metastatic abscesses
c. cervical inflammation

27. What are the complications of cervicitis?
a. formation of scars and adhesions

b. mucus plug does not form during pregnancy
c. the cervical canal does not close

28. How is postpartum necrotizing metritis treated?
a.rectal massage of the uterus, rinsing the uterine cavity with furatsilin solution, drugs that increase uterine contractions
b.infusion therapy, antibacterial therapy, drugs that increase uterine contractions
c. infusion therapy, rectal massage of the uterus, oxytocin

29. For what purpose is rectal massage being performed every 2-3 days for 5 minutes for endometritis?
a. to stimulate ovulation
b. for evacuation of contents from the uterine cavity
c. for improving vasodilation of uterine vessels

30. Why does infusion therapy being performed?
a. for stimulation of uterine tone
b. to increase blood pressure
c. to relieve intoxication, replenish dehydration

31. Which animals can be diagnosed with postpartum paresis?
a. cattle
b. pigs
c. cats

32.What kind of suture is used for uterine prolapse in cattle?
a. U-shaped
b. knotted

33. What is andrological examination?
a. andrological examination is the study of male reproductive system.
b. andrological examination is a study of digestive system
c. andrological examination is a study of the respiratory system

34. What reflexes are assessed during andrological examination of sires?
a. ear, eye, corolla.
b. tactile and pain sensitivity.
c. locomotor, hugging, erection, copulation, ejaculation

35. What methods are used for a complete andrological examination?

a. percussion, auscultation, determination of the frequency of contractions of the scar.
b. anamnesis collection, palpation, rectal examination, sonography, assessment of sperm quality, analysis prepuce samples for bacteriological and serological tests.
c. X-ray, cardiography, laparoscopy.

36. How are studies of innate sexual reflexes in males carried out?
a. after fixation of animal
b. after anesthesia according to the method of Voronin I.I.
c. during coitus or when sperm is being collected.

37. How is a bull's penis examined?
a. during erection or after anesthesia according to the method of Voronin I.I.
b. after fixation of animal.
c. during urination.

38. What methods are used to examine the scrotum and prepuce?
a. palpation, sonography.
b. X-ray, rectal examination.
c. laparoscopy, percussion, auscultation.

39. Which sex hormones predominate in males?
a. estrogens
b. androgens

40. How long does pregnancy last in dogs?
a. 1.5 months
b. 2 months
c. more than 3 months

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

1. What hormones are produced in the ovaries; their physiological functions?
a. Estrone, estriol, estradiol, progesterone, relaxin. Participate in the neurohumoral regulation of sexual function.
b. Cortisol, insulin, thyroxine. Regulate digestive function.

c. Oxytocin, vasopressin, sinestrol. Regulate hematopoietic function.

2. What is the corpus luteum and its function?
a. latent. Produces testosterone.
b. simple. Produces oxytocin.
c. of estrous cycle, of pregnacy, persistent. Produces progesterone. Produces progesterone.

3.What are the stages of ovum development?
a. luteal, follicular, aging.
b. oogonium, primary oocyte, secondary oocyte and ovum.
c. zygotes, embryonic, fertile.

4. What are the stages of spermatogenesis?
a. budding, sporulation.
b. multiplication, growth, maturation and metamorphosis.
c. aging, resorption.

5. How long does the postpartum period last?
a. from the end of labor to the involution of the genitalia
b. from the first contractions to the birth of the fetus
c. from the birth of the fetus to the first month of its life

6.What organs and organ systems undergo involution?
a. udder
b. uterus
c. digestive system

7. As a result of decreased nutrition of uterine tissue, its cells are exposed to:
a. degeneration and atrophy
b. regeneration
c. emigration

8.What is discharge during the processes of involution of the genital organs in females
a. lochia
b. mucus
c. blood

9.What are lochia formed from?
a. secretion of the cervical canal and blood clots and fibrin present in the uterus, leukocytes, destroyed epithelium, remnants of fetal fluid and placentas
b. secretion of the uterine glands, vestibular glands

10. By what day does cows stop discharge lochia?
a. 15-17 days
b. 20 days
c. 31 days

11.What is evidenced by the later release of lochia after childbirth?
a. about pathologies of the postpartum period
b. about multiple births
c. about polyhydramnios
12. What happens in the ovaries during the postpartum period?
a. involution of the corpus luteum and then the follicles
b. inhibition of follicle formation, maturation of the corpus luteum
c. formation of the corpus luteum and follicles simultaneously

13.What happens to the labia after labor?
a. contract and move closer to the anus again
b. enlarges, swell, move away from the anus
c. contract, move away from the anus

14. When does involution of the genitalia in cows end on average?
a. 3 weeks after birth
b. 4 weeks after birth
c. 2 weeks after birth

15. How many weeks later can pregnancy occur under optimal conditions?
a. 3 weeks
b. immediately labor
c. a week after labor

16. What happens in the postpartum period compared to the period before the onset of labor
a. restructuring of the entire body, body temperature rises slightly, pulse and breathing increase, blood pressure decreases
b. temperature drops and pulse decreases

c. body temperature and blood pressure rise

17. In the first 3 days after birth, the uterine wall in large animals
a. thickens to 4-5 cm
b. becomes thinner

18. In the first 3 days after birth, the volume of the uterus
a. decreases by 2-3 times
b. increases 2-3 times

19.What happens to the uterus during the postpartum period?
a. wall becomes thinner, the stretched uterine ligaments are shortened and the uterus returns to its original position
b. thickens, the uterine ligaments stretch

20. When the cervix closes completely
a. after completion of uterine involution
b. doesn't close
c. immediately after birth

21. When the transformation of the “birth” pelvis into a normal one ends
a. on the 4-5th day
b. on day 2
c. immediately

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

22. When the restoration of the abdominal configuration is completed?
a. during the first 2-3 days
b. immediately
c. a month later

23. How long is the postpartum period in mares?
a. 8-12 days
b. 14-16 days
c. 16-18 days

24 How long is the postpartum period in ewes and goats?
a.17-20 days

b. 13-16 days
c. 10-12 days
d. 7-9 days

25. How long is the postpartum period in cows?
a. 2-8 days
b. 3-6 days
c. 7-9 days
d. 10-12 days

26 By what day does discharge of lochia stop in goats and ewes?
a. 7-10 days
b. 11-13 days
c. 14-16 days

27 By what day do pigs stop discharge lochia?
a. 2-8 days
b. 10-12 days
c. 14-16 days

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

28. Where and when do sperm exhibit the ability to move?
a. when passing through the epididymis, in the tail;
b. when passing through the epididymis, in the body;
c. when passing through the epididymis, in the proximal part of the head;
d. when passing through the vasa deferentia of the testis;
e. when passing through the seminiferous tubules of the testis, in the distal part of the head.

29. When giving sperm, which sires are introduced into the arena and a stuffed animal is used?
a. bulls of dairy breeds
b. rams;
c. stallions;
d. beef bulls;
e. goats.

30. Which sires, when giving sperm, are taken by two people on reins to an open area and brought to a female in heat whose tail is bandaged?
a. bulls of dairy breeds
b. rams;
c. stallions;
d. beef bulls;
e. goats.

31. In which sires is sperm collected by wrapping the fingers around the extended penis after mounting the dummy and pressing on the head of the penis, causing ejaculation?
a. bulls;
b. rams;
c. stallions;
d. boars;
e. goats.

32. Which sires produce 2 ejaculates with an interval of 5-15 minutes every 3-4 days or 3 ejaculates with the same intervals every 4-5 days?
a. bulls;
b. rams;
c. stallions;
d. boars;
e. goats.

33. Which sires provide sperm during the breeding season daily or every other day, 2 ejaculates in the morning with an interval of 5-10 minutes and 1-2 ejaculates in the evening?
a. bulls of dairy breeds
b. rams, goats;
c. stallions;
d. boars;
e. beef bulls.

34. Which sires produce one ejaculate every 3-4 days?
a. bulls;
b. rams;
c. stallions;
d. boars;

e. goats.

35. What is the load on bulls used for natural insemination?
a. up to 100 cows;
b. up to 50 cows;
c. up to 200 cows;
d. up to 150 cows;
e. up to 75 cows.

36. What is the load on rams used for natural insemination?
a. 50-60 ewes;
b. 100-120 ewes;
c. 70-80 ewes;
d. 60-75 ewes;
e. 80-100 ewes.

37. What is the load on stallions used for natural insemination?
a. 50-60 mares;
b. 100-120 mares;
c. 70-80 mares;
d. 60-75 mares;
e. 80-100 mares.

38. What is the load on boars per reproductive cycle used for natural insemination?
a. 20 sows;
b. 10 sows;
c. 50 sows;
d. 60 sows;
e. 30 sows.

39. Which sires provide sperm during the breeding season, one ejaculate for 5-6 days in a row, followed by 1-2 days of rest?
a. bulls;
b. rams;
c. stallions;
d. boars;
e. goats.

40. What fractions are collected when obtaining sperm from a boar using the manual method?

a. second;

b. first and second;

c. second and third;

d. first, second and third;

e. third.

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 parometritis, 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.