

**THE NATIONAL COUNCIL FOR TECHNICAL AND VOCATIONAL EDUCATION AND  
TRAINING**



**OCCUPATIONAL STANDARDS**

**OCCUPATION: LIVESTOCK VETERINARY TECHNICIAN**

**LEVEL: NTA LEVEL 6**

**FEBRUARY 2024**

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## **ABBREVIATIONS**

<b>AB</b>	Antibody
<b>AG</b>	Antigen
<b>CBC</b>	Blood Routine Test
<b>CBET</b>	Competency Based Education and Training
<b>FP</b>	Fowl Pox
<b>HA</b>	Hemagglutination Assay
<b>HI</b>	Hemagglutination Inhibition Test
<b>HPAI</b>	High Pathogenic AI
<b>IAP</b>	Immunization Plan
<b>IG</b>	Immunoglobulin
<b>IM</b>	Intramuscular Injection
<b>IV</b>	Intravenous Injection
<b>NACTVET</b>	National Council for Technical and Vocational Education and Training
<b>NOS</b>	National Occupational Standards
<b>OS</b>	Occupational Standards
<b>RBC</b>	Red Blood Cell Count
<b>RV</b>	Rotavirus

<b>TET</b>	Technical Education and Training
<b>TVET</b>	Technical and Vocational Education and Training
<b>WBC</b>	White Blood Cell

## GLOSSARY OF TERMS

<b>Circumstantial Knowledge:</b>	Detailed knowledge, which allows the decision-making in regard to different circumstances and cross cutting issues.
<b>Competence:</b>	The ability to use knowledge, understanding, practical, and thinking skills to perform effectively to the workplace standards required in employment.
<b>Competency:</b>	A description of the ability one possesses when able to perform a given occupational task effectively and efficiently.
<b>Competency-based Education:</b>	An instructional programme that derives its content from validated tasks and bases assessment on the learner's performance.
<b>Curriculum:</b>	A description or composite of statements about "what is to be learned" by the trainee/student in a particular instructional programme; a product that states the "intended learning outcomes".
<b>Educational/Training Programme:</b>	The complete curriculum and instruction (what and how) that is designed to prepare a person for employment in a job or other particular performance situation.
<b>Occupation:</b>	A specific position requiring the performance of specific tasks - essentially the same tasks are performed by all employees having the same title. (Example: baker)
<b>Occupational Area:</b>	This is a broad grouping of related jobs. (Example: food service)
<b>Occupational Standards:</b>	Specific requirements of competences for personnel in a particular occupational area, including knowledge and relevant attitudes. They also act as performance tools of assessment of the prescribed outcomes.
<b>Occupational/Job Analysis:</b>	A process used to identify the tasks that are important to employees in any given occupation.
<b>Performance Criteria:</b>	Indicate expected end results or outcomes in the form of evaluative statements.

<b>Skills:</b>	The ability to perform occupational tasks with a high degree of proficiency within a given occupation. Skill is conceived of as a composite of three completely interdependent components: cognitive, affective, and psychomotor.
<b>Standards:</b>	A set of statements, which, if proved true under working conditions, means that an individual is meeting an expected level and type of performance.
<b>Task Analysis:</b>	The process of analysing each task to determine the steps, circumstantial knowledge, attitudes, performance criteria, tools and materials needed, as well as safety concerns required for the employees performing it.
<b>Task:</b>	A work activity that has a definite beginning and ending, is observable or measurable, consists of two or more definite steps, and leads to products, service, or decisions.
<b>Underpinning Knowledge:</b>	Crucial knowledge that an individual must acquire in order to demonstrate competences that are associated in performing a given task.
<b>Verification Process:</b>	The process of having experts review and confirm the importance of the task (competency) statements identified through occupational analysis. Other questions, such as the degree of task learning difficulty are also frequently asked. This process is also sometimes referred to as validation.
<b>Occupational Competence:</b>	The application of knowledge and skills that consistently meet the standards required by the working conditions.

## 1.0. INTRODUCTION

Technical Education and Training (TET) is one of the most important education sub-sectors in Tanzania, responsible for developing a skilled workforce to support the country's industrialization economic agenda. Tanzania's *Development Vision 2025* intends to raise the country's economy to a middle-income status, with a high level of human development. This requires a skilled workforce that is aligned with the needs of the public and private sectors of the economy. The National Council for Technical and Vocational Education and Training (NACTVET) has begun the job of drafting Occupational Standards (OS) that will eventually be adopted as National Occupational Standards (NOS) for use in the delivery of TET that meets the needs of the labour market and the country's economic agenda.

Occupational Standards (OS) are performance criteria that are matched with labour market demands. Each of them describes the functions, performance standards, and understanding or knowledge underpinning a given occupation. They combine skills, knowledge, and attitudes to describe best practice. They are useful tools for establishing job roles, personnel recruitment, supervision, and appraisal, as well as TET Standards. They are also helpful for benchmarking and harmonizing job qualifications on a national and international level. Standards, in general, provide a solid framework for high-quality TET that is labour market-relevant, current, and consistent in application across all public and private institutions.

However, it must be noted that Occupational Standards are different from Training /Education Standards. Occupational standards are defined in terms of activities performed by a person in a selected occupation (e.g., an electrical engineer designs electrical circuits, performs troubleshooting in electrical circuits, etc.), and are usually defined by Employers following procedures as agreed upon by all the stakeholders. On the other hand, Training and Education Standards are developed from the activities defined in the occupational standards, and they specify learning objectives to ensure that the necessary skills and knowledge are developed by a person to enable him/her to function at an agreed level in an occupation. Training and Education Standards are used to define curricula in training institutions. It is critical, however, to establish a direct link between the occupational standards and the training standards for both of them to respond collaboratively to the demands of the labour market.

For the purpose of TET delivery, Tanzania has adopted the Competence Based Education and Training (CBET) approach. The CBET approach focuses on providing learners with the skills and knowledge required to meet the occupational standards. Occupational standards are thus the starting point for developing competency-based training (CBET) programmes. Therefore, it is quite pertinent for TET institutions to use the relevant occupational standards as a benchmark for formulating their curricula.

Occupational Standards are developed based on a given occupation's current and future demands. As a result, they serve as a means of bridging the gap between the worlds of employment and technical education and training.

The document explains how the occupational standards were developed, as well as the scope, the occupational profile in the form of DACUM charts, and the Occupational Standards.

## **2.0. OCCUPATIONAL STANDARD DEVELOPMENT PROCESS**

The process of developing these Occupational Standards involved both local and international expertise. The process began with an examination of major documents that guide Tanzanian skills development including the *10-year National Skills Development Strategy (2016-2026)*. NACTVET labour market reports were also used in the literature review to determine the skills demand in the Tanzanian labour market as a whole.

After the literature review, a team of experts in consultation with practitioners developed draft occupational standards. The draft document was used to develop an occupational profile for each occupation (DACUM Chart), which is attached as an **Appendix** to every Occupational Standard.

The occupational standards were validated during the stakeholders' forum held on 22<sup>nd</sup> and 23<sup>rd</sup> February 2024 at Morogoro. The information from the stakeholders' forum provides insight from the workplace, professional bodies, regulatory bodies and sector ministries regarding trends and changes in the profession, including how well graduates are prepared for working in the occupation.



### **3.0. THE SCOPE AND OVERVIEW OF THE OCCUPATION STANDARDS FOR LIVESTOCK VETERINARY TECHNICIANS**

The standards cover a broad range of duties and tasks that can be performed by a Livestock Veterinary Technician. However, the occupational standards are not meant to replace individual job descriptions. Instead, they are to be used for guidance in defining skill levels and knowledge for the technician in specific settings or positions. The Livestock Veterinary Technician may perform tasks in a number of key areas of the Occupational Standards, but not necessarily in all areas. For example, in large operations, other individuals may be employed or designated to perform specific tasks.

Livestock Veterinary Technicians are responsible for basic operational techniques, including the anatomy, breeding, feed processing, breeding management, vaccination, pharmacology pathology and disease prevention and control of the livestock and poultry (pigs, chickens, cows, horses, rabbits, dogs and cats) and they work under the supervision of Livestock Veterinary Engineers. Generally, the Livestock Veterinary Technician performs the following duties:

- a) Restraint of animal
- b) Sterilization operations
- c) Preparation of experimental materials;
- d) Basic clinical examination
- e) Biosafety protection
- f) Appearance identification and health evaluation
- g) Immunization and immunization effect monitoring
- h) Collection and delivery of blood samples
- i) Use of common instruments
- j) Storage of drugs and reagents, and drug compatibility and administration technique
- k) Inspection and handling of animals and animal products
- l) Feed processing and formula design

- m) Estrus identification and artificial insemination technique
- n) Collection and delivery of pathological tissue samples
- o) Examination of parasites
- p) Clinical tests
- q) Necropsy
- r) Inspection and handling after slaughtering
- s) Feeding and management of livestock and poultry

The Occupational Standards have been clustered into NTA qualification levels, i.e. NTA 4, 5 and 6.

#### **4.0. VALIDITY PERIOD**

Due to the rapid development of technology, the validity period of occupational standards is 3-5 years. The review will proceed in the same manner as the one before it, with new occupational standards being developed based on current trends of the labour market.

## 5.0. OCCUPATIONAL STANDARDS

### 5.1 OCCUPATIONAL STANDARDS FOR LIVESTOCK VETERINARY TECHNICIAN - NTA 6

OCCUPATION	LIVESTOCK VETERINARY TECHNICIAN	OCCUPATION CODE	
DUTY TITLE	MONITOR IMMUNIZATION EFFECTS	DUTY NO.	601
TASK TITLE	CONDUCT TREATMENT OF ADVERSE IMMUNIZATION REACTIONS	TASK NO.	6011
PERFORMANCE CRITERIA	The person performing this task must be able to conduct the treatment of adverse animal immunization reactions according to the standard adverse immunization reaction treatments.		
RANGE STATEMENT	The task can be performed on livestock farm under the supervision of senior animal husbandry and veterinary engineers. The tools and equipment to be used include:  1. Veterinary thermometer;  2. Stethoscope;  3. Disposable syringe;  4. Personal protective equipment, such as masks, disposable latex gloves, and protective clothing;  5. Platform scales or weighting scales;		
EVIDENCE REQUIREMENT			
PRACTICAL PERFORMANCE		UNDERPINNING KNOWLEDGE	
The person performing this task must be able to do the following:  1. Select appropriate tools and equipment;  2. Identify the different types of adverse immunization reactions;  3. Measure body temperature of animal;  4. Identify breathing and heart sounds of animal;  5. Weigh and calculate the dosage of drugs;  6. Give muscle injection;  7. Give subcutaneous injection;  8. Give venipuncture;  9. Care animals;		Detailed knowledge about:  <b>1.0 Methods</b>  The person performing this task must be able to explain how to:  1.1 Prepare response plans for the following different types of adverse immunization reactions: Normal reactions, severe reactions, and comorbidity;  1.2 Calculate the dosage of drugs.  <b>2.0 Principle</b>  The person performing this task must be able to explain the following principles:  2.1 Reasons of adverse immunization reactions;	

<p>10. Clean the tools, equipment and the workplace;</p> <p>11. Store drugs, tools and equipment safely; and</p> <p>12. Observe health, occupational and environmental safety rules and regulations</p>	<p>2.2 Response plans for adverse immunization reactions and its significance.</p> <p><b>3.0 Theories</b></p> <p>The person performing this task must be able to explain the following:</p> <p>3.1 Instructions for selection and application of drugs.</p> <p><b>4.0 Essential Skills</b></p> <p>4.1 Instrument operation skills;</p> <p>4.2 Customer service skills;</p> <p>4.3 Teamwork skills;</p> <p>4.4 Report writing skills.</p>
<b>DESCRIPTION OF THE END PRODUCT / SERVICE</b>	Treatments of adverse immunization reactions in animals are performed in accordance with approved technical specifications
<b>CIRCUMSTANTIAL KNOWLEDGE</b>	<p><b>Detailed knowledge about:</b></p> <ol style="list-style-type: none"> <li>1. Knowledge of animal immunization;</li> <li>2. Animal pharmacological knowledge;</li> <li>3. Biosafety;</li> <li>4. Methods for disposal of medical waste.</li> </ol>

OCCUPATION	LIVESTOCK VETERINARY TECHNICIAN	OCCUPATION CODE	
DUTY TITLE	MONITOR IMMUNIZATION EFFECTS	DUTY NO.	601
TASK TITLE	CARRY OUT EVALUATION OF IMMUNIZATION POTENCY	TASK NO.	6012
PERFORMANCE CRITERIA	The person performing this task must be able to carry out the evaluation of animal immunization potency in accordance with standard immunization potency evaluation procedures.		
RANGE STATEMENT	The task can be performed on livestock farm under the supervision of senior animal husbandry and veterinary engineers. The tools and equipment to be used include:  1. Veterinary hemostix; 2. Electrothermostat; 3. Benchtop low-speed centrifuge; 4. Pipette; 5. 96-hole V-type coagulation board; 6. ELIASA; 7. Tray balance; 8. Oscillator; 9. Masks and disposable latex gloves; 10. Protective clothing; 11. Refrigerator.		
EVIDENCE REQUIREMENT			
PRACTICAL PERFORMANCE		UNDERPINNING KNOWLEDGE	
The person performing this task must be able to do the following:  1. Observe biosafety measures; 2. Select appropriate operation tools and equipment; 3. Select appropriate detection methods according to different antibody detection object; 4. Take blood collection from poultry wing veins; 5. Take blood collection from porcine anterior vena cava;		Detailed knowledge about: <b>1.0 Methods</b>  The person performing this task must be able to explain how to:  1.1 Select appropriate detection methods according to different antibody detection object;  1.2 Take serum agglutination test;  1.3 Take haemagglutination-hemagglutination inhibition test;  1.4 Perform the enzyme-linked immunosorbent assay;  1.5 Take antibody result analysis.	

6. Take blood collection from jugular veins of cattle and sheep; 7. Take blood collection from oxtail vein; 8. Separate and preserve serum; 9. Test serum agglutination; 10. Test hemagglutination- hemagglutination inhibition; 11. Test enzyme-linked immunosorbent; 12. Clean the disinfection tools, equipment and workplace; 13. Store tools and equipment safely; and 14. Observe health, occupational and environmental safety rules and regulations	<p><b>2.0 Principle</b></p> <p>The person performing this task must be able to explain the following principles:</p> <p>2.1 Principle of antigen-antibody specific reaction;</p> <p>2.2 Principle of agglutination test.</p> <p><b>3.0 Theories</b></p> <p>The person performing this task must be able to explain the following:</p> <p>3.1 Animal immunoassay detect method;</p> <p>3.2 Blood circulation law of animals.</p> <p><b>4.0 Essential Skills</b></p> <p>4.1 Instrument operation skills;</p> <p>4.2 Customer service skills;</p> <p>4.3 Teamwork skills;</p> <p>4.4 Report writing skills.</p>
<b>DESCRIPTION OF THE END PRODUCT / SERVICE</b>	The evaluation of immunization potency is carried out in accordance with approved technical requirements.
<b>CIRCUMSTANTIAL KNOWLEDGE</b>	<p><b>Detailed knowledge about:</b></p> <ol style="list-style-type: none"> <li>1. Knowledge of animal immunization;</li> <li>2. Animal pharmacological knowledge;</li> <li>3. Biosafety;</li> <li>4. Methods for disposal of medical waste.</li> </ol>

OCCUPATION	LIVESTOCK VETERINARY TECHNICIAN	OCCUPATION CODE	
DUTY TITLE	MONITOR IMMUNIZATION EFFECTS	DUTY NO.	601
TASK TITLE	PREPARE THE IMMUNIZATION PROGRAMMES	TASK NO.	6013
PERFORMANCE CRITERIA	The person performing this task must be able to prepare the animal immunization programmes in accordance with the technical immunization requirements.		
RANGE STATEMENT	The task can be performed on livestock farm under the supervision of senior animal husbandry and veterinary engineers. The tools and equipment to be used include: 1. Desktop or laptop computer; 2. Printer.		
EVIDENCE REQUIREMENT			
PRACTICAL PERFORMANCE		UNDERPINNING KNOWLEDGE	
The person performing this task must be able to do the following: 1. Investigate animal species, uses and local epidemic situation; 2. Evaluate the maternal antibody level of animals; 3. Evaluate the residual antibody level caused by the last immunization; 4. Select the type of vaccine; 5. Select the immunization method.		Detailed knowledge about:  1.0 Methods The person performing this task must be able to explain how to: 1.1 Prepare immunization plan.  2.0 Principle The person performing this task must be able to explain the following principles: 2.1 Attenuated vaccine Immunization; 2.2 Inactivated vaccine immunization; 2.3 Vaccine immune interference.  3.0 Theories The person performing this task must be able to explain the following: 3.1 Regularity of immune response; 3.2 Epidemiological investigation standards.  4.0 Essential Skills 4.1 Instrument operation skills; 4.2 Customer service skills; 4.3 Teamwork skills;	

	4.4 Report writing skills.
<b>DESCRIPTION OF THE END PRODUCT / SERVICE</b>	The immunization programme is prepared in accordance with the standard immunization procedures.
<b>CIRCUMSTANTIAL KNOWLEDGE</b>	<b>Detailed knowledge about:</b> <ol style="list-style-type: none"> <li>1. Knowledge of animal immunization;</li> <li>2. Animal pharmacological knowledge;</li> <li>3. Biosafety;</li> <li>4. Methods for disposal of medical waste.</li> </ol>



OCCUPATION	LIVESTOCK VETERINARY TECHNICIAN	OCCUPATION CODE	
DUTY TITLE	PERFORM COLLECTION AND DELIVERY OF PATHOLOGICAL TISSUE SAMPLES	DUTY NO.	602
TASK TITLE	CARRY OUT THE COLLECTION AND PRESERVATION OF PATHOLOGICAL TISSUE SAMPLES	TASK NO.	6021
PERFORMANCE CRITERIA	The person performing this task must be able to carry out the collection and preservation of animal pathological samples in accordance with the standard procedures for the collection and preservation of pathological tissue samples.		
RANGE STATEMENT	The task can be performed on livestock farm under the supervision of senior animal husbandry and veterinary engineers. The tools and equipment to be used include:  1. Scalpel; 2. Operating scissors; 3. Tweezer; 4. Glass bottle; 5. Alcohol burner; 6. Masks and disposable latex gloves; 7. Protective clothing; 8. Protective mask.		
EVIDENCE REQUIREMENT			
PRACTICAL PERFORMANCE		UNDERPINNING KNOWLEDGE	
The person performing this task must be able to do the following:  1. Observe biosafety measures; 2. Select appropriate operation tools and equipment; 3. Select suitable pathological samples for different diseases; 4. Dissect poultry in a pathological manner; 5. Dissect pigs in a pathological manner;		Detailed knowledge about:  1.0 Methods  The person performing this task must be able to explain how to:  1.1 Dissect poultry in a pathological manner; 1.2 Dissect pigs in a pathological manner; 1.3 Dissect ruminants in a pathological manner; 1.4 Prepare fixation fluid for pathological samples.  2.0 Principle	

6. Dissect ruminants in a pathological manner; 7. Prepare fixation fluid for pathological samples; 8. Label, package and transport pathological samples; 9. Clean the tools, equipment and workplace; 10. Store tools and equipment safely.	<p>The person performing this task must be able to explain the following principles:</p> <p>2.1 Collection and preservation principles of pathological tissue samples</p> <p><b>3.0 Theories</b></p> <p>The person performing this task must be able to explain the following:</p> <p>3.1 Animal pathological anatomy methods;</p> <p>3.2 Collection methods of animal pathological tissue;</p> <p>3.3 Preservation methods of animal pathological tissues.</p> <p><b>4.0 Essential Skills</b></p> <p>4.1 Instrument operation skills;</p> <p>4.2 Customer service skills;</p> <p>4.3 Teamwork skills;</p> <p>4.4 Report writing skills.</p>
<b>DESCRIPTION OF THE END PRODUCT / SERVICE</b>	<p>The pathological tissue samples are collected and preserved in accordance with approved technical requirements.</p>
<b>CIRCUMSTANTIAL KNOWLEDGE</b>	<p><b>Detailed knowledge about:</b></p> <ol style="list-style-type: none"> <li>1. Animal anatomical structure;</li> <li>2. Pathological changes of animal diseases;</li> <li>3. Biosafety;</li> <li>4. Methods for disposal of medical waste.</li> </ol>

OCCUPATION	LIVESTOCK VETERINARY TECHNICIAN	OCCUPATION CODE	
DUTY TITLE	PERFORM COLLECTION AND DELIVERY OF PATHOLOGICAL TISSUE SAMPLES	DUTY NO.	602
TASK TITLE	CARRY OUT COLLECTION AND PRESERVATION OF PATHOGEN ANALYSIS SAMPLES	TASK NO.	6022
PERFORMANCE CRITERIA	The person performing this task must be able to carry out the collection and preservation of pathogen analysis samples in accordance with technical requirements.		
RANGE STATEMENT	The task can be performed on livestock farm under the supervision of senior animal husbandry and veterinary engineers. The tools and equipment to be used include:  1. Sterilizing scalpel; 2. Sterilizing surgical scissors; 3. Sterilized tweezers; 4. Sterilized glass bottle/capped centrifuge tube/plate; 5. Autoclave; 6. Refrigerator/freezer; 7. Alcohol burner; 8. Injector; 9. Masks and disposable latex gloves; 10. Protective clothing; 11. Protective mask.		
EVIDENCE REQUIREMENT			
PRACTICAL PERFORMANCE		UNDERPINNING KNOWLEDGE	
The person performing this task must be able to do the following:  1. Observe biosafety measures; 2. Select appropriate operation tools and equipment for this task; 3. Select suitable pathogen analysis samples for different animal diseases; 4. Dissect poultry in a pathological manner;		Detailed knowledge about: <b>1.0 Methods</b>  The person performing this task must be able to explain how to:  1.1 Dissect poultry in a pathological manner; 1.2 Dissect pigs in a pathological manner; 1.3 Dissect ruminants in a pathological manner; 1.4 Prepare anticoagulant, phosphate buffer and Hank's solution;	

5. Dissect pigs in a pathological manner; 6. Dissect ruminants in a pathological manner; 7. Prepare anticoagulant, phosphate buffer and Hank's solution; 8. Collect animal blood; 9. Isolate serum; 10. Clean the tools, equipment and the workplace; 11. Store reagents, tools and equipment safely.	1.5 Collect animal blood; 1.6 Isolate serum.  <b>2.0 Principle</b> The person performing this task must be able to explain the following principles: 2.1 Principles of collection and preservation of pathogen analysis samples.  <b>3.0 Theories</b> The person performing this task must be able to explain the following: 3.1 Animal pathological anatomy methods; 3.2 Collection methods of animal pathogenic analysis; 3.3 Preservation methods of animal pathogenic analysis tissues.  <b>4.0 Essential Skills</b> 4.1 Instrument operation skills; 4.2 Customer service skills; 4.3 Teamwork skills; 4.4 Report writing skills.
<b>DESCRIPTION OF THE END PRODUCT / SERVICE</b>	The collection and preservation of pathogen analysis samples is carried out in accordance with standard collection and preservation procedures.
<b>CIRCUMSTANTIAL KNOWLEDGE</b>	<b>Detailed knowledge about:</b> 1. Animal anatomical structure 2. Pathological changes of animal epidemic diseases; 3. Biosafety; 4. Methods for disposal of medical waste.

OCCUPATION	LIVESTOCK VETERINARY TECHNICIAN	OCCUPATION CODE	
DUTY TITLE	PERFORM COLLECTION AND DELIVERY OF PATHOLOGICAL TISSUE SAMPLES	DUTY NO.	602
TASK TITLE	CONDUCT TRANSPORTATION OF SAMPLES	TASK NO.	6023
PERFORMANCE CRITERIA	The person performing this task must be able to transport samples in accordance with the standard safety sample storage procedures.		
RANGE STATEMENT	The task can be performed on livestock farm under the supervision of senior animal husbandry and veterinary engineers. The tools and equipment to be used include:  1. Sterilizing scalpel; 2. Sterilizing surgical scissors; 3. Sterilized tweezers; 4. Sterilized glass bottle/capped centrifuge tube/plate; 5. Autoclave; 6. Paraffin wax; 7. Sealing film; 8. Biological ice pack; 9. Dried ice; 10. Marking pen; 11. Label paper; 12. Masks and disposable latex gloves; 13. Protective clothing; 14. Protective mask.		
EVIDENCE REQUIREMENT			
PRACTICAL PERFORMANCE		UNDERPINNING KNOWLEDGE	
The person performing this task must be able to do the following:  1. Observe biosafety measures; 2. Select appropriate operation tools and equipment; 3. Select different packing ways for different samples		Detailed knowledge about: <b>1.0 Methods</b>  The person performing this task must be able to explain how to:  1.1 Tag sample; 1.2 Pack sample; 1.3 Deliver sample.	

4. Select different delivering ways for different samples 5. Clean the disinfection tools, equipment and workplace; 6. Store tools and equipment safely.	<p><b>2.0 Principle</b></p> <p>The person performing this task must be able to explain the following principles:</p> <p>2.1 Necessity of tagging samples;</p> <p>2.2 Necessity of delivering samples correctly.</p> <p><b>3.0 Theories</b></p> <p>The person performing this task must be able to explain the following:</p> <p>3.1 Biosafety methods for sample packaging and transportation.</p> <p><b>4.0 Essential Skills</b></p> <p>4.1 Instrument operation skills;</p> <p>4.2 Customer service skills;</p> <p>4.3 Teamwork skills;</p> <p>4.4 Report writing skills.</p>
<b>DESCRIPTION OF THE END PRODUCT / SERVICE</b>	Transportation of samples is conducted in accordance with the approved standards and regulations.
<b>CIRCUMSTANTIAL KNOWLEDGE</b>	<p><b>Detailed knowledge about:</b></p> <p>1. Knowledge of histopathological fixation;</p> <p>2. Preservation of pathogen analysis samples;</p> <p>3. Biosafety;</p> <p>4. Methods for disposal of medical waste.</p>

OCCUPATION	LIVESTOCK VETERINARY TECHNICIAN	OCCUPATION CODE	
DUTY TITLE	CONDUCT PARASITE EXAMINATION	DUTY NO.	603
TASK TITLE	CARRY OUT EXAMINATION OF WORM EGGS, LARVAE AND COCCIDIA OOCYSTS IN FECES	TASK NO.	6031
PERFORMANCE CRITERIA	The person performing this task must be able to examine worm eggs, larvae and coccidia oocysts in feces according to operating procedures and parasite detection standards.		
RANGE STATEMENT	The task can be performed in the laboratory under the supervision of a senior Livestock Veterinary Technician or a Licensed Veterinarian. The instruments, equipment and reagent consumables to be used include: 1. Microscope; 2. Electronic balance; 3. Tray balance; 4. Low speed centrifuge; 5. 1 mL pipettor; 6. Microscope; 7. Manual counter; 8. Consumables, such as beakers, glass slides, cover slides, 60-mesh screens, glass rods, 15 mL centrifuge tubes, self-made wire rings (or bacterial inoculation rings), and McMaster counting plates; 9. Reagents, such as saturated salt water and cedar oil; 10. Personal protective equipment, such as gloves, masks, and work clothes.		
EVIDENCE REQUIREMENT			
PRACTICAL PERFORMANCE		UNDERPINNING KNOWLEDGE	
The person performing this task must be able to do the following: 1. Observe the health and safety prevention measures; 2. Choose appropriate instruments, equipment and consumables; 3. Configure the required standard reagents; 4. Collect and identify fecal samples; 5. Direct smear observation under microscope; 6. Choose appropriate methods for testing items; 7. Observe microscope; 8. Record the observation results; 9. Judge the result;		Detailed knowledge about: <b>1.0 Methods</b> The person performing this task must be able to explain how to: 1.1 Collect and identify fecal samples.  <b>2.0 Principle</b> The person performing this task must be able to explain the following principles: 2.1 Aseptic standard; 2.2 Standard of collecting different types of detection indicators.  <b>3.0 Theories</b>	

<p>10. Shut down instruments and equipment, clean countertops and workplaces;</p> <p>11. Handle consumables and test objects safely.</p>	<p>The person performing this task must be able to explain the following:</p> <p>3.1 Morphological characteristics of worm eggs and larvae in feces;</p> <p>3.2 Morphological characteristics of coccidia eggs in feces;</p> <p>3.3 Morphological characteristics of other objects in feces;</p> <p>3.4 Inspection methods of worm eggs and larvae in feces;</p> <p>3.5 Clinical significance of examination of helminth eggs and larvae in feces;</p> <p>3.6 Direct smear method;</p> <p>3.7 Concentration method;</p> <p>3.8 Floating method;</p> <p>3.9 Precipitation method;</p> <p>3.10 Hatching method.</p> <p><b>4.0 Essential Skills</b></p> <p>4.1 Instrument operation skills;</p> <p>4.2 Customer service skills;</p> <p>4.3 Teamwork skills;</p> <p>4.4 Report writing skills.</p>
<b>DESCRIPTION OF THE END PRODUCT / SERVICE</b>	Examination of worm eggs, larvae and coccidia oocysts in feces is conducted as per approved technical specifications and standards.
<b>CIRCUMSTANTIAL KNOWLEDGE</b>	<p><b>Detailed knowledge about:</b></p> <ol style="list-style-type: none"> <li>1. Correct operation of microscopes and other instruments;</li> <li>2. Standard configuration of reagents such as saturated brine;</li> <li>3. Correct implementation of detection methods;</li> <li>4. Occupational health and safety;</li> <li>5. Disposal methods of detection waste and consumables.</li> </ol>



OCCUPATION	LIVESTOCK VETERINARY TECHNICIAN	OCCUPATION CODE	
DUTY TITLE	CONDUCT PARASITE EXAMINATION	DUTY NO.	603
TASK TITLE	PERFORM EXAMINATION OF PARASITES IN SCRAPED OBJECTS OF SKIN	TASK NO.	6032
PERFORMANCE CRITERIA	The person performing this task must be able to perform examination of parasites in scraped objects of skin and examine according to the operating procedures and parasite detection standards.		
RANGE STATEMENT	The task can be performed in the laboratory under the supervision of a senior Livestock Veterinary Technician or a Licensed Veterinarian. The tools and equipment to be used include:  1. Microscope; 2. Electronic balance; 3. Tray balance; 4. Low speed centrifuge; 5. Pipette; 6. Microscope; 7. Manual counter; 8. Consumables, such as scalpels, cellophane, beakers, glass slides, cover slides, screens, glass rods, 15 mL centrifuge tubes, self-made wire rings (or bacterial inoculation rings), and McMaster counting plates; 9. Reagents, such as normal saline, 10%NaOH, saturated salt water and cedar oil; 10. Personal protective equipment, such as gloves, masks, and work clothes.		
EVIDENCE REQUIREMENT			
PRACTICAL PERFORMANCE		UNDERPINNING KNOWLEDGE	
The person performing this task must be able to do the following:  1. Observe the health and safety prevention measures; 2. Choose appropriate instruments, equipment and consumables; 3. Configure the required standard reagents; 4. Scrape dander tissue sample; 5. Observe smear 6. Choose appropriate methods for testing items; 7. Observe results;		Detailed knowledge about:  <b>1.0 Methods</b>  The person performing this task must be able to explain how to:  1.1 Collect and mark dander tissue sample; 1.2 Check the map of skin parasites.  <b>2.0 Principle</b>  The person performing this task must be able to explain the following principles:  2.1 Aseptic standard; 2.2 Standard of collecting different types of detection indicators.	

8. Record the observation results; 9. Judge the result; 10. Shut down instruments and equipment, clean countertops and workplaces; 11. Handle consumables and test objects safely.	<b>3.0 Theories</b> The person performing this task must be able to explain the following: 3.1 Morphological characteristics of parasites in scraped objects of skin; 3.2 Morphological characteristics of other objects in scraped objects of skin; 3.3 Examination method of parasites in scraped objects of skin; 3.4 Clinical significance of examining parasites in scraped objects of skin; 3.6 Direct inspection method; 3.7 Scraping method; 3.8 Extrusion smear method; 3.9 Scotch tape adhesion method; 3.10 Microscopic observation.  <b>4.0 Essential Skills</b> 4.1 Instrument operation skills; 4.2 Customer service skills; 4.3 Teamwork skills; 4.4 Report writing skills.
<b>DESCRIPTION OF THE END PRODUCT / SERVICE</b>	The examination of parasites in scraped objects of skin is performed according to the detection purpose and technical requirements.
<b>CIRCUMSTANTIAL KNOWLEDGE</b>	<b>Detailed knowledge about:</b> 1. Correct operation of microscopes and other instruments; 2. Standard configuration of reagents such as 10%NaOH; 3. Correct implementation of detection methods; 4. Occupational health and safety; 5. Disposal methods of detection waste and consumables.

OCCUPATION	LIVESTOCK VETERINARY TECHNICIAN	OCCUPATION CODE	
DUTY TITLE	CONDUCT PARASITE EXAMINATION	DUTY NO.	603
TASK TITLE	CARRY OUT EXAMINATION OF PARASITES IN ORGANS AND TISSUES	TASK NO.	6033
PERFORMANCE CRITERIA	The person performing this task must be able to carry out the parasites in organs and tissues according to the operating procedures and parasite detection standards.		
RANGE STATEMENT	The task can be performed in the laboratory under the supervision of a senior Livestock Veterinary Technician or a Licensed Veterinarian. The instruments, equipment and reagent consumables to be used include:  1. Microscope; 2. Electronic balance; 3. Tray balance; 4. Low speed centrifuge; 5. 1 mL pipettor; 6. Microscope; 7. Manual counter; 8. Consumables, such as beakers, glass slides, cover slides, screens, glass rods, 15 mL centrifuge tubes, self-made wire rings (or bacterial inoculation rings), and McMaster counting plates; 9. Reagents, such as saturated salt water and cedar oil; 10. Personal protective equipment, such as gloves, masks, and work clothes.		
EVIDENCE REQUIREMENT			
PRACTICAL PERFORMANCE		UNDERPINNING KNOWLEDGE	
The person performing this task must be able to do the following:  1. Observe the health and safety prevention measures;  2. Choose appropriate instruments, equipment and consumables;  3. Configure the required standard reagents;		Detailed knowledge about:  1.0 Methods  The person performing this task must be able to explain how to:  1.1 Collect pathological materials of tissues and organs;  1.8. Check the map of parasites in tissues and organs.	

<ol style="list-style-type: none"> <li>4. Collect pathological materials of tissues and organs;</li> <li>5. Choose appropriate methods for testing items;</li> <li>6. Observe results;</li> <li>7. Record the observation results;</li> <li>8. Judge the result;</li> <li>9. Shut down instruments and equipment, clean countertops and workplaces;</li> <li>10. Handle consumables and test objects safely.</li> </ol>	<p><b>2.0 Principle</b></p> <p>The person performing this task must be able to explain the following principles:</p> <ol style="list-style-type: none"> <li>2.1 Aseptic standard;</li> <li>2.2 Standard of collecting different types of detection indicators.</li> </ol> <p><b>3.0 Theories</b></p> <p>The person performing this task must be able to explain the following:</p> <ol style="list-style-type: none"> <li>3.1 Morphological characteristics of parasites in organs and tissues;</li> <li>3.2 Examination methods of parasite in organs and tissues;</li> <li>3.3 Clinical significance of examining parasites in organs and tissues;</li> <li>3.4 Secretion smear method;</li> <li>3.5 Microscopic examination of smear;</li> <li>3.6 Venipuncture smear method;</li> <li>3.7 Microscopic examination of tableting;</li> <li>3.8 Muscle digestion method.</li> </ol> <p><b>4.0 Essential Skills</b></p> <ol style="list-style-type: none"> <li>4.1 Instrument operation skills;</li> <li>4.2 Customer service skills;</li> <li>4.3 Teamwork skills;</li> <li>4.4 Report writing skills.</li> </ol>
<p><b>DESCRIPTION OF THE END PRODUCT / SERVICE</b></p>	<p>The examination of parasites in organs and tissues is carried out according to the approved technical specifications and standards.</p>
<p><b>CIRCUMSTANTIAL KNOWLEDGE</b></p>	<p><b>Detailed knowledge about:</b></p> <ol style="list-style-type: none"> <li>1. Correct operation of microscopes and other instruments;</li> <li>2. Standard configuration of reagents;</li> <li>3. Correct implementation of detection methods;</li> <li>4. Occupational health and safety;</li> <li>5. Disposal methods of detection waste and consumables.</li> </ol>

OCCUPATION	LIVESTOCK VETERINARY TECHNICIAN	OCCUPATION CODE	
DUTY TITLE	CONDUCT PARASITE EXAMINATION	DUTY NO.	603
TASK TITLE	EXAMINE THE PROTOZOA AND WORMS LARVAE IN BLOOD SAMPLES	TASK NO.	6034
PERFORMANCE CRITERIA	The person performing this task must be able to examine worm larvae and protozoa in blood samples according to the parasite detection standards.		
RANGE STATEMENT	The task can be performed in the laboratory under the supervision of a senior Livestock Veterinary Technician or a Licensed Veterinarian. The tools and equipment to be used include:  1. Microscope; 2. Electronic balance; 3. Tray balance; 4. Low speed centrifuge; 5. Pipette; 6. Microscope; 7. Manual counter; 8. Consumables, such as beakers, glass slides, cover slides, glass rods, centrifuge tube; 9. Reagents, such as saturated salt water and cedar oil; 10. Personal protective equipment, such as gloves, masks, and work clothes.		
EVIDENCE REQUIREMENT			
PRACTICAL PERFORMANCE		UNDERPINNING KNOWLEDGE	
The person performing this task must be able to do the following:  1. Observe the health and safety prevention measures; 2. Choose appropriate instruments, equipment and consumables; 3. Configure the required standard reagents; 4. Collect and identify blood samples;		Detailed knowledge about:  1.0 Methods  The person performing this task must be able to explain how to:  1.1 Collect and mark blood samples; 1.2 Check the map of protozoon and worms larvae in blood.  2.0 Principle	

<ol style="list-style-type: none"> <li>5. Choose appropriate inspection methods for testing items;</li> <li>6. Observe results;</li> <li>7. Record results;</li> <li>8. Judge the result;</li> <li>9. Shut down instruments and equipment, clean countertops and workplaces;</li> <li>10. Handle consumables and test objects safely.</li> </ol>	<p>The person performing this task must be able to explain the following principles:</p> <ol style="list-style-type: none"> <li>2.1 Aseptic standard;</li> <li>2.2 Standard of collecting different types of detection indicators.</li> </ol> <p><b>3.0 Theories</b></p> <p>The person performing this task must be able to explain the following:</p> <ol style="list-style-type: none"> <li>3.1 Morphological characteristics of protozoon and worm larvae in blood</li> <li>3.2 Methods of examining protozoon and worm larvae in blood;</li> <li>3.3 Clinical significance of examining protozoon and worm larvae in blood</li> <li>3.4 Blood smear method;</li> <li>3.5 Blood pressure drop;</li> <li>3.6 Insect concentration;</li> <li>3.7 Hemolysis check.</li> </ol> <p><b>4.0 Essential Skills</b></p> <ol style="list-style-type: none"> <li>4.1 Instrument operation skills;</li> <li>4.2 Customer service skills;</li> <li>4.3 Teamwork skills;</li> <li>4.4 Report writing skills.</li> </ol>
<p><b>DESCRIPTION OF THE END PRODUCT / SERVICE</b></p>	<p>The examination of protozoon and worm larvae in blood samples is carried out according to the detection purpose and technical requirements.</p>
<p><b>CIRCUMSTANTIAL KNOWLEDGE</b></p>	<p><b>Detailed knowledge about:</b></p> <ol style="list-style-type: none"> <li>1. Correct operation of microscopes and other instruments;</li> <li>2. Standard configuration of reagents such as saturated brine;</li> <li>3. Correct implementation of detection methods;</li> <li>4. Occupational health and safety;</li> <li>5. Disposal methods of detection waste and consumables.</li> </ol>

OCCUPATION	LIVESTOCK VETERINARY TECHNICIAN	OCCUPATION CODE	
DUTY TITLE	PERFORM CLINICAL VALIDATION	DUTY NO.	604
TASK TITLE	CARRY OUT THE BLOOD ROUTINE EXAMINATION	TASK NO.	6041
PERFORMANCE CRITERIA	The person performing this task must be able to carry out the blood routine examination according to the operating procedure and blood routine standard index.		
RANGE STATEMENT	The task can be performed in the laboratory under the supervision of a senior Livestock Veterinary Technician or a Licensed Veterinarian. The instruments, equipment and consumables to be used include:  1. Microscope; 2. Automatic blood cell analyzer; 3. Consumables, such as beakers, glass slides, cover slides, glass rods, centrifuge tube, blood lancet, cotton swab; 4. Reagents, such as alcohol, saline, anticoagulant, Giemsa stain, Wright Stain; 5. Personal protective equipment, such as gloves, masks, and work clothes.		
EVIDENCE REQUIREMENT			
PRACTICAL PERFORMANCE		UNDERPINNING KNOWLEDGE	
The person performing this task must be able to do the following:  1. Observe the health and safety prevention measures; 2. Choose appropriate instruments, equipment and consumables; 3. Configure the required standard reagents; 4. Collect and mark blood samples; 5. Preserve and transport blood samples; 6. Choose appropriate inspection methods for testing items; 7. Observe results; 8. Record the results; 9. Judge the result;		Detailed knowledge about:  4.4 Methods  The person performing this task must be able to explain how to:  1.1 Collect and mark blood samples; 1.2 Preserve and transport blood samples; 1.3 Prepare and observe blood smears after staining; 1.4 Use automatic blood cell analyzer; 1.5 Check coagulation function and observe the blood component map.  2.0 Principle  The person performing this task must be able to explain the following principles:  2.1 Aseptic standard;	

<p>10. Shut down instruments and equipment, clean countertops and workplaces;</p> <p>11. Handle consumables and test objects safely.</p>	<p>2.2 Standard of collecting different types of detection indicators.</p> <p><b>3.0 Theories</b></p> <p>The person performing this task must be able to explain the following:</p> <p>3.1 Principles and methods of blood routine test</p> <p>3.2 Characters and physiological constants of blood of healthy animals;</p> <p>3.3 Clinical significance of blood routine examination indicators;</p> <p>3.4 Use method of instruments and equipment.</p> <p><b>4.0 Essential Skills</b></p> <p>4.1 Instrument operation skills;</p> <p>4.2 Customer service skills;</p> <p>4.3 Instrument operation skills;</p> <p>4.4 Inspection report writing skills.</p>
<b>DESCRIPTION OF THE END PRODUCT / SERVICE</b>	The blood routine examination is performed according to the detection purpose and approved technical requirements
<b>CIRCUMSTANTIAL KNOWLEDGE</b>	<p><b>Detailed knowledge about:</b></p> <ol style="list-style-type: none"> <li>1. Correct operation of hematology analyzer and other instruments</li> <li>2. Standard configuration of reagents;</li> <li>3. Correct implementation of detection methods;</li> <li>4. Occupational health and safety;</li> <li>5. Disposal methods of detection waste and consumables.</li> </ol>



OCCUPATION	LIVESTOCK VETERINARY TECHNICIAN	OCCUPATION CODE	
DUTY TITLE	PERFORM CLINICAL VALIDATION	DUTY NO.	604
TASK TITLE	CARRY OUT URINE ROUTINE EXAMINATION	TASK NO.	6042
PERFORMANCE CRITERIA	The person performing this task must be able to perform urine routine examination according to the operating procedure and urine routine standard index.		
RANGE STATEMENT	The task can be performed in the laboratory under the supervision of a senior Livestock Veterinary Technician or a Licensed Veterinarian. The instruments, equipment and consumables to be used include:  1. Microscope; 2. Urine analyzer; 3. Alcohol burner; 4. Test tube clamp; 5. Consumables, such as beakers, glass slides, cover slides, glass rods, centrifuge tubes, sampling cup, catheter, PH test paper; 6. Reagents, such as disinfectant, preservative, Giemsa stain, Wright Stain and cedar oil; 7. Personal protective equipment, such as gloves, masks, and work clothes.		
EVIDENCE REQUIREMENT			
PRACTICAL PERFORMANCE		UNDERPINNING KNOWLEDGE	
The person performing this task must be able to do the following:  1. Observe the health and safety prevention measures; 2. Choose appropriate instruments, equipment and consumables; 3. Configure the required standard reagents; 4. Collect and preserve urine samples; 5. Choose appropriate methods for testing items; 6. Observe results;		Detailed knowledge about:  1.0 Methods  The person performing this task must be able to explain how to:  1.1 Collect and number urine samples; 1.2 Store and transport urine samples; 1.3 Check blood component map.  2.0 Principle  The person performing this task must be able to explain the following principles:  2.1 Aseptic standard; 2.2 Standard of collecting different types of detection indicators.	

<ol style="list-style-type: none"> <li>7. Record results;</li> <li>8. Judge results;</li> <li>9. Shut down instruments and equipment, clean countertops and workplaces;</li> <li>10. Handle consumables and test objects safely.</li> </ol>	<p><b>3.0 Theories</b></p> <p>The person performing this task must be able to explain the following:</p> <ol style="list-style-type: none"> <li>3.1 Principles and methods of urine examination;</li> <li>3.2 Characters and physiological constants of urine of healthy animals;</li> <li>3.3 Clinical significance of urine indicators;</li> <li>3.4 The proper use of instruments and equipment;</li> <li>3.5 Urine sensory examination method;</li> <li>3.6 Urine and SG examination method;</li> <li>3.7 Test paper examination method;</li> <li>3.8 Urine protein boiling and acid adding method;</li> <li>3.9 Sulfosalicylic acid method;</li> <li>3.10 Blood in urine benzidine method;</li> <li>3.11 Urine chemical analyzer method;</li> <li>3.12 Urine glucose test paper method;</li> <li>3.13 Ketone body sodium nitroferricyanide method.</li> </ol> <p><b>4.0 Essential Skills</b></p> <ol style="list-style-type: none"> <li>4.1 Instrument operation skills;</li> <li>4.2 Customer service skills;</li> <li>4.3 Teamwork skills;</li> <li>4.4 Report writing skills.</li> </ol>
<p><b>DESCRIPTION OF THE END PRODUCT / SERVICE</b></p>	<p>Urine routine examination is performed according to the detection purpose and technical requirements.</p>
<p><b>CIRCUMSTANTIAL KNOWLEDGE</b></p>	<p><b>Detailed knowledge about:</b></p> <ol style="list-style-type: none"> <li>1. Correct operation of urine analyzer and other instruments;</li> <li>2. Standard configuration operation of reagents such as sodium nitroferricyanide;</li> <li>3. Correct implementation of detection methods;</li> <li>4. Occupational health and safety;</li> <li>5. Disposal methods of detection waste and consumables.</li> </ol>

OCCUPATION	LIVESTOCK VETERINARY TECHNICIAN	OCCUPATION CODE	
DUTY TITLE	PERFORM CLINICAL VALIDATION	DUTY NO.	604
TASK TITLE	CONDUCT FECES ROUTINE EXAMINATION	TASK NO.	6043
PERFORMANCE CRITERIA	The person performing this task must be able to conduct feces routine examination according to the operating procedure and feces routine standard index.		
RANGE STATEMENT	The task can be performed in the laboratory under the supervision of a senior Livestock Veterinary Technician or a Licensed Veterinarian. The instruments, equipment and consumables to be used include:  1. Microscope;  2. Consumables, such as beakers, glass slides, cover slides, glass rods, centrifuge tube, occult blood qualitative test kit, screens;  3. eagents, such as normal saline, benzidine;  4. Personal protective equipment, such as gloves, masks, and work clothes.		
EVIDENCE REQUIREMENT			
PRACTICAL PERFORMANCE		UNDERPINNING KNOWLEDGE	
The person performing this task must be able to do the following:  1. Observe the safety and health prevention measures;  2. Choose appropriate instruments, equipment and consumables;  3. Collect and identify fecal samples;  4. Check the physical properties of feces;  5. Check the composition of fecal impurities;  6. Judge the result;  7. Shut down instruments and equipment, clean countertops and workplaces;  8. Handle consumables and test objects safely.		Detailed knowledge about:  <b>1.0 Methods</b>  The person performing this task must be able to explain how to:  1.1 Collect and identify fecal samples;  1.2 Number and handle fecal samples.  <b>2.0 Principle</b>  The person performing this task must be able to explain the following principles:  2.1 Aseptic standard;  2.2 Standard of collecting different types of detection indicators.  <b>3.0 Theories</b>  The person performing this task must be able to explain the following:  3.1 Contents and principles of feces examination;	

	<p>3.2 Characters and physiological constants of feces of healthy animals;</p> <p>3.3 Clinical significance of feces examination indicators</p> <p>3.4 Method for determination of acidity and basicity of feces;</p> <p>3.5 Occult blood test of feces;</p> <p>3.6 Impurities inspection smear method.</p> <p><b>4.0 Essential Skills</b></p> <p>4.1 Instrument operation skills;</p> <p>4.2 Customer service skills;</p> <p>4.3 Teamwork skills;</p> <p>4.4 Report writing skills.</p>
<b>DESCRIPTION OF THE END PRODUCT / SERVICE</b>	Feces examination is carried out according to the detection purpose and approved technical requirements
<b>CIRCUMSTANTIAL KNOWLEDGE</b>	<p><b>Detailed knowledge about:</b></p> <ol style="list-style-type: none"> <li>1. Correct operation of microscopes and other testing instruments;</li> <li>2. Standard configuration of reagents;</li> <li>3. Correct implementation of detection methods;</li> <li>4. Occupational health and safety;</li> <li>5. Disposal methods of detection waste and consumables.</li> </ol>

OCCUPATION	LIVESTOCK VETERINARY TECHNICIAN	OCCUPATION CODE	
DUTY TITLE	PERFORM CLINICAL VALIDATION	DUTY NO.	604
TASK TITLE	CARRY OUT BIOCHEMICAL EXAMINATION	TASK NO.	6044
PERFORMANCE CRITERIA	The person performing this task must be able to carry out biochemical examinations according to the operating procedure and animal biochemical standard index.		
RANGE STATEMENT	The task can be performed in the laboratory under the supervision of a senior Livestock Veterinary Technician or a Licensed Veterinarian. The tools and equipment to be used include:  1. Microscope; 2. Blood biochemical analyzer; 3. Electronic balance; 4. Tray balance; 5. Low speed centrifuge; 6. Pipette; 7. Consumables, such as beakers, glass slides, cover slides, glass rods, centrifuge tube, blood lancet, cotton swab; 8. Reagents, such as alcohol, saline, anticoagulant; 9. Personal protective equipment, such as gloves, masks, and work clothes.		
EVIDENCE REQUIREMENT			
PRACTICAL PERFORMANCE		UNDERPINNING KNOWLEDGE	
The person performing this task must be able to do the following:  1. Observe the safety and health prevention measures;  2. Choose appropriate instruments, equipment and consumables;  3. Collect and identify blood samples;  4. Preserve and transport blood samples;  5. Check the physical properties of urine;  6. Check the chemical composition of urine;  7. Check urine sediment;  8. Judge results;		<b>Detailed knowledge about:</b>  <b>4.4 Methods</b>  The person performing this task must be able to explain how to:  1.1 Collect and mark blood samples; 1.2 Preserve and transport blood samples; 1.3 Treat blood samples.  <b>2.0 Principle</b>  The person performing this task must be able to explain the following principles:  2.1 Aseptic standard; 2.2 Standard of collecting different types of detection indicators.  <b>3.0 Theories</b>	

<p>9. Shut down instruments and equipment, clean countertops and workplaces;</p> <p>10. Handle consumables and test objects safely.</p>	<p>The person performing this task must be able to explain the following:</p> <p>3.1 Principles and methods of biochemical examination;</p> <p>3.2 Clinical significance of biochemical indicators;</p> <p>3.3 Liver function examination;</p> <p>3.4 Renal function examination;</p> <p>3.5 Blood lipid and blood glucose examination;</p> <p>3.6 Cardiac enzyme examination;</p> <p>3.7 Ion detection method;</p> <p>3.8 Blood biochemical analyzer method.</p> <p><b>4.0 Essential Skills</b></p> <p>4.1 Communication skills;</p> <p>4.2 Customer service skills;</p> <p>4.3 Teamwork skills;</p> <p>4.4 Report writing skills.</p>
<b>DESCRIPTION OF THE END PRODUCT / SERVICE</b>	Biochemical examinations are carried out according to the detection purpose and approved technical requirements.
<b>CIRCUMSTANTIAL KNOWLEDGE</b>	<p><b>Detailed knowledge about:</b></p> <ol style="list-style-type: none"> <li>1. Correct operation of blood biochemical analyzer and other instruments</li> <li>2. Standard configuration of reagents;</li> <li>3. Correct implementation of detection methods;</li> <li>4. Occupational health and safety;</li> <li>5. Disposal methods of detection waste and consumables.</li> </ol>

OCCUPATION	LIVESTOCK VETERINARY TECHNICIAN	OCCUPATION CODE	
DUTY TITLE	CONDUCT NECROPSY	DUTY NO.	605
TASK TITLE	PERFORM STANDARD NECROPSY OF LIVESTOCK AND POULTRY CARCASSES	TASK NO.	6051
PERFORMANCE CRITERIA	The person performing this task must be able to carry out standard necropsy of livestock and poultry carcasses according to the technical requirements of livestock and poultry carcass autopsy.		
RANGE STATEMENT	The task can be performed in the autopsy room of livestock and poultry carcass under the supervision of senior Livestock Veterinary Technician, and can also be carried out outdoors if conditions do not permit. The instruments and drugs to be used include:  1. Knivers (peeling knives, scalpels, surgical knives); 2. Scissors (surgical scissors, intestinal scissors, bone shears); 3. Tweezer; 4. Bone saws; 5. Axe; 6. Sharpening steel; 7. Grindstone; 8. Disinfectants; 9. Fixation fluid; 10. Container for storing pathological tissues; 11. Porcelain plate (basin or jar); 12. Record books; 13. Pens; 14. Camera; 15. Personal protective equipment.		
EVIDENCE REQUIREMENT			
PRACTICAL PERFORMANCE		UNDERPINNING KNOWLEDGE	
The person performing this task must be able to do the following:  1. Choose appropriate equipment and drugs;  2. Choose the time and place of autopsy;  3. Investigate the medical history;		Detailed knowledge about:  1.0 Methods  The person performing this task must be able to explain how to:  1.1 Dissect and examine carcasses of cattle, sheep, pigs, poultry and rabbits;	

4. Eliminate anthrax; 5. Identify changes in corpses; 6. Check the body surface; 7. Peel and examine subcutaneous tissue; 8. Open and examine the abdominal cavity; 9. Open and examine the chest cavity; 10. Open and examine the cranial cavity; 11. Open and examine the nasal cavity; 12. Examine muscles, joints and bone marrow; 13. Collect, pack and send pathological material for examination; 14. Record the necropsy results; 15. Disinfect and take proper personal protection; 16. Treat livestock and poultry carcass in a harmless way.	1.2 Collect, pack and send pathological material for examination; 1.3 Record autopsy findings; 1.4 Treat corpses in a harmless way.  <b>2.0 Principle</b> The person performing this task must be able to explain the following principles: 2.1 Purpose and significance of necropsy of livestock and poultry carcass; 2.2 Procedures of necropsy of livestock and poultry 2.3 Changes of necropsy of livestock and poultry.  <b>3.0 Theories</b> The person performing this task must be able to explain the following: 3.1 Precaution of necropsy; 3.2 Different necropsy methods of livestock and poultry carcasses; 3.3 Observation and recording methods of cadaver lesions.  <b>4.0 Essential Skills</b> 4.1 Communication skills; 4.2 Teamwork skills; 4.3 Practical operation skills; 4.4 Report writing skills; 4.5 Entrepreneurial skills.
<b>DESCRIPTION OF THE END PRODUCT / SERVICE</b>	Standard necropsy of livestock and poultry carcasses is performed in accordance with the approved technical specifications and standards.
<b>CIRCUMSTANTIAL KNOWLEDGE</b>	<b>Detailed knowledge about:</b> 1. Standardized operation of necropsy; 2. Safe use of instruments and medicines; 3. Self-protection measures of autopsy personnel; 4. Disposal of instruments and supplies after autopsy; 5. Disposal of corpses and sites after autopsy.



OCCUPATION	LIVESTOCK VETERINARY TECHNICIAN	OCCUPATION CODE	
DUTY TITLE	CONDUCT NECROPSY	DUTY NO.	605
TASK TITLE	IDENTIFY LIVESTOCK AND POULTRY ORGAN LESIONS	TASK NO.	6052
PERFORMANCE CRITERIA	The person performing this task must be able to identify livestock and poultry organ lesions according to technical requirements of animal and poultry organ lesion identifications.		
RANGE STATEMENT	The task can be performed in the autopsy room of livestock and poultry carcass under the supervision of senior Livestock Veterinary Technician, and can also be carried out outdoors if conditions do not permit. The instruments and drugs to be used include:  1. Knives (peeling knives, scalpels, surgical knives); 2. Scissors (surgical scissors, intestinal scissors, bone shears); 3. Tweezer; 4. Bone saws; 5. Axe; 6. Sharpening steel; 7. Grindstone; 8. Disinfectants; 9. Fixation fluid; 10. Container for storing pathological tissues; 11. Porcelain plate (basin or jar); 12. 1Record books; 13. Pens; 14. Camera; 15. Personal protective equipment.		
EVIDENCE REQUIREMENT			
PRACTICAL PERFORMANCE		UNDERPINNING KNOWLEDGE	
The person performing this task must be able to do the following:  1. Choose appropriate equipment and drugs; 2. Identify lymph node lesions; 3. Identify lung lesions; 4. Identify heart disease lesions;		Detailed knowledge about: <b>1.0 Methods</b>  The person performing this task must be able to explain how to:  1.1 Examine organs and tissues;  1.2 Collect, pack and send pathological material for examination;	

5. Identify splenic lesions; 6. Identify liver lesions; 7. Identify renal lesions; 8. Identify gastric lesions; 9. Identify intestinal lesions; 10. Identify pelvic organ lesions; 11. Identify brain and spinal cord lesions; 12. Collect, pack and send pathological material for examination; 13. Record the necropsy findings of each organ; 14. Disinfect and take proper personal protection; 15. Treat livestock and poultry viscera in a harmless way.	1.3 Record the necropsy findings of each organ; 1.4 Treat livestock and poultry viscera in a harmless way.  <b>2.0 Principle</b> The person performing this task must be able to explain the following principles: 2.1 Normal anatomical structure of various organs of livestock and poultry 2.2 Pathological changes of various organs of livestock and poultry.  <b>3.0 Theories</b> The person performing this task must be able to explain the following: 3.1 Pathological changes of common organs of livestock and poultry; 3.2 Comprehensive observation of organ lesions of livestock and poultry; 3.3 Objective description and detailed record of organ lesions of livestock and poultry.  <b>4.0 Essential Skills</b> 4.1 Communication skills; 4.2 Teamwork skills; 4.3 Practical operation skills; 4.4 Report writing skills; 4.5 Entrepreneurial skills.
<b>DESCRIPTION OF THE END PRODUCT / SERVICE</b>	Identification of livestock and poultry organ lesions is performed in accordance with the approved technical requirements.
<b>CIRCUMSTANTIAL KNOWLEDGE</b>	<b>Detailed knowledge about:</b> 1. Standardized operation of viscera autopsy; 2. Safe use of instruments and medicines; 3. Self-protection measures of autopsy personnel; 4. Disposal of instruments and supplies after autopsy; 5. Disposal of corpses and sites after autopsy.

OCCUPATION	LIVESTOCK VETERINARY TECHNICIAN	OCCUPATION CODE	
DUTY TITLE	CONDUCT NECROPSY	DUTY NO.	605
TASK TITLE	PERFORM IDENTIFICATION OF ANIMAL EPIDEMIC DISEASES BY OBSERVING TYPICAL LESIONS	TASK NO.	6053
PERFORMANCE CRITERIA	The person performing this task must be able to identify animal epidemic disease by observing typical lesions according to the standard animal epidemic diseases identification procedures.		
RANGE STATEMENT	The task can be performed in pathology laboratory under the supervision of senior Livestock Veterinary Technician. The instruments and drugs to be used include:  1. Knivers (peeling knives, scalpels, surgical knives); 2. Scissors (surgical scissors, intestinal scissors, bone shears); 3. Tweezer; 4. Disinfectants; 5. Microscope; 6. Refrigerator; 7. Paraffin slicer; 8. Staining solution; 9. Dehydration agent; 10. Transparent agent; 11. Fixation fluid; 12. Record books; 13. Pens; 14. Camera; 15. Personal protective equipment.		
EVIDENCE REQUIREMENT			
PRACTICAL PERFORMANCE		UNDERPINNING KNOWLEDGE	
The person performing this task must be able to do the following:  1. Choose appropriate equipment and drugs;  2. Observe typical lesions;  3. Collect, pack and send pathological material for examination;		Detailed knowledge about: <b>1.0 Methods</b>  The person performing this task must be able to explain how to:  1.1 Observe the lesions with naked eyes;  1.2 Observe the lesions with microscope;  1.3 Collect, pack and send pathological material for examination;	

<ol style="list-style-type: none"> <li>4. Make paraffin slices;</li> <li>5. Stain;</li> <li>6. Observe typical lesions with microscope;</li> <li>7. Record typical lesions;</li> <li>8. Analyze typical lesions;</li> <li>9. Identify animal epidemic diseases;</li> <li>10. Disinfect and take proper personal protection;</li> <li>11. Treat diseased organs in a harmless way.</li> </ol>	<ol style="list-style-type: none"> <li>1.4 Make paraffin sections and stain them;</li> <li>1.5 Analyze lesions;</li> <li>1.6 Treat diseased viscera in a harmless way.</li> </ol> <p><b>2.0 Principle</b></p> <p>The person performing this task must be able to explain the following principles:</p> <ol style="list-style-type: none"> <li>2.1 Normal anatomical structure and tissue structure of livestock and poultry organs;</li> <li>2.2 Typical ocular and microscopic lesions of animal diseases.</li> </ol> <p><b>3.0 Theories</b></p> <p>The person performing this task must be able to explain the following:</p> <ol style="list-style-type: none"> <li>3.1 Typical lesions of various animal epidemic diseases;</li> <li>3.2 Circumstantial knowledge of animal pathological anatomy;</li> <li>3.3 Techniques of making histopathological sections;</li> <li>3.4 Use and maintenance methods of microscope.</li> </ol> <p><b>4.0 Essential Skills</b></p> <ol style="list-style-type: none"> <li>4.1 Communication skills;</li> <li>4.2 Teamwork skills;</li> <li>4.3 Practical operation skills;</li> <li>4.4 Report writing skills;</li> <li>4.5 Entrepreneurial skills.</li> </ol>
<p><b>DESCRIPTION OF THE END PRODUCT / SERVICE</b></p>	<p>Identification of animal epidemic diseases by observing typical lesions is performed in accordance with the approved technical requirements.</p>
<p><b>CIRCUMSTANTIAL KNOWLEDGE</b></p>	<p><b>Detailed knowledge about:</b></p> <ol style="list-style-type: none"> <li>1. Standardized operation of identifying animal diseases by observing typical lesions;</li> <li>2. Safe use of instruments and medicines;</li> <li>3. Self-protection measures of autopsy personnel;</li> <li>4. Disposal of instruments and supplies after autopsy;</li> <li>5. Treatment of organs, tissues and sites after autopsy;</li> </ol>

OCCUPATION	LIVESTOCK VETERINARY TECHNICIAN	OCCUPATION CODE	
DUTY TITLE	CONDUCT NECROPSY	DUTY NO.	605
TASK TITLE	ISSUE NECROPSY REPORT OF LIVESTOCK AND POULTRY CARCASSES	TASK NO.	6054
PERFORMANCE CRITERIA	The person performing this task must be able to issue necropsy reports of livestock and poultry carcasses according to the necropsy records and pathological anatomy diagnosis results.		
RANGE STATEMENT	The task can be performed in the office under the guidance of a senior Livestock Veterinary Technician. The tools and equipment to be used include:  1. Record books; 2. Pens; 3. Computers; 4. Camera; 5. Standard form of autopsy record; 6. Printer. 7. Safety and protective gears		
EVIDENCE REQUIREMENT			
PRACTICAL PERFORMANCE		UNDERPINNING KNOWLEDGE	
The person performing this task must be able to do the following:  1. Select appropriate tools and equipment; 2. Overview necropsy; 3. Describe the necropsy findings; 4. Carry out gross pathological diagnosis; 5. Get the conclusion of necropsy; 6. Issue a necropsy report. 7. Observe health, occupational and environmental safety rules and regulations		<b>Detailed knowledge about:</b>  <b>1.0 Methods</b>  The person performing this task must be able to explain how to:  1.1 Identify lesions; 1.2 Analyze lesions; 1.3 Give observation and analysis; 1.4 Write necropsy report.  <b>2.0 Principles</b>  The person performing this task must be able to explain the following principles:  2.1 Understanding and analysis of lesions; 2.2 Gross Pathological diagnosis.  <b>3.0 Theories</b>	

	<p>The person performing this task must be able to explain the following:</p> <p>3.1 Typical lesions of various animal epidemic diseases;</p> <p>3.2 Related theories of pathological anatomy;</p> <p>3.3 Requirements for writing necropsy reports of animal carcasses.</p> <p><b>4.0 Essential Skills</b></p> <p>4.1 Communication skills;</p> <p>4.2 Teamwork skills;</p> <p>4.3 Report writing skills;</p> <p>4.4 Comprehensive analysis skills;</p> <p>4.5 Problem-solving skills;</p> <p>4.6 Entrepreneurial skills.</p>
<b>DESCRIPTION OF THE END PRODUCT / SERVICE</b>	Necropsy report of livestock and poultry carcasses is issued in accordance with the approved technical requirements.
<b>CIRCUMSTANTIAL KNOWLEDGE</b>	<p><b>Detailed knowledge about:</b></p> <ol style="list-style-type: none"> <li>1. Knowledge of writing necropsy report;</li> <li>2. Methodology of comprehensive analysis of problems.</li> </ol>

OCCUPATION	LIVESTOCK VETERINARY TECHNICIAN	OCCUPATION CODE	
DUTY TITLE	CONDUCT POST-SLAUGHTER QUARANTINE AND TREATMENT	DUTY NO.	606
TASK TITLE	CARRY OUT POST-SLAUGHTER QUARANTINE AND TREATMENT OF CATTLE	TASK NO.	6061
PERFORMANCE CRITERIA	The person performing this task must be able to carry out post-slaughter quarantine and treatment of cattle according to the technical requirements of post-slaughter quarantine and treatment of cattle		
RANGE STATEMENT	This task must be performed by the official veterinarian in the slaughter house during the slaughter of cattle. The instruments and drugs to be used include:  1. Quarantine knives (2); 2. Sharp knife for bone removal; 3. Quarantine hook; 4. Rasp rod; 5. Disinfectant; 6. Personal protective equipment.		
EVIDENCE REQUIREMENT			
PRACTICAL PERFORMANCE		UNDERPINNING KNOWLEDGE	
The person performing this task must be able to do the following:  1. Choose appropriate equipment and drugs; 2. Number uniformly; 3. Check the head and hoof; 4. Check viscera; 5. Check carcass; 6. Perform re-examination; 7. Process the results; 8. Disinfection; 9. Do harmless treatment; 10. Take proper personal protection; 11. Record quarantine.		Detailed knowledge about:  <b>1.0 Methods</b>  The person performing this task must be able to explain how to:  1.1 Carry out sensory examination (visual examination, necropsy, touch examination and olfactory examination);  1.2 Issue the Animal Quarantine Certificate for those passing the quarantine inspection;  1.3 Issue the Notice of Animal Quarantine Treatment for those failing to pass the quarantine inspection;  1.4 Disinfection;  1.5 Harmless treatment.  <b>2.0 Principle</b>	

<p>12. Observe health, occupational and environmental safety rules and regulations</p>	<p>The person performing this task must be able to explain the following principles:</p> <p>2.1 Purpose and significance of cattle quarantine after slaughter;</p> <p>2.2 Procedures and methods of post-slaughter quarantine of cattle;</p> <p>2.2 Treatment of quarantine results of cattle after slaughter.</p> <p><b>3.0 Theories</b></p> <p>The person performing this task must be able to explain the following:</p> <p>3.1 Relevant regulations on animal epidemic prevention;</p> <p>3.2 Requirements for post-slaughter quarantine of animals;</p> <p>3.3 Pathological changes of prescribed diseases in cattle;</p> <p>3.4 Commonly-used disinfecting methods;</p> <p>3.5 Use method of the protective mask.</p> <p><b>4.0 Essential Skills</b></p> <p>4.1 Communication skills;</p> <p>4.2 Teamwork skills;</p> <p>4.3 Practical operation skills;</p> <p>4.4 Comprehensive analysis skills;</p> <p>4.5 Problem-solving skills;</p> <p>4.6 Entrepreneurial skills.</p>
<p><b>DESCRIPTION OF THE END PRODUCT / SERVICE</b></p>	<p>Post-slaughter quarantine and treatment of cattle is conducted in accordance with the technical requirements.</p>
<p><b>CIRCUMSTANTIAL KNOWLEDGE</b></p>	<p><b>Detailed knowledge about:</b></p> <p>1. Quarantine regulations for cattle after slaughter;</p> <p>2. Health and safety protection in the process of post-slaughter quarantine;</p> <p>3. Biosafety knowledge.</p>



OCCUPATION	LIVESTOCK VETERINARY TECHNICIAN	OCCUPATION CODE	
DUTY TITLE	CONDUCT POST-SLAUGHTER QUARANTINE AND TREATMENT	DUTY NO.	606
TASK TITLE	CARRY OUT POST-SLAUGHTER QUARANTINE AND TREATMENT OF SHEEP	TASK NO.	6062
PERFORMANCE CRITERIA	The person performing this task must be able to carry out post-slaughter quarantine and treatment of sheep according to technical requirements of post-slaughter quarantine and treatment of sheep.		
RANGE STATEMENT	This task must be performed by the official veterinarian in the slaughter house during the slaughter of sheep. The instruments and drugs to be used include:  1. Quarantine knives (2); 2. Sharp knife for bone removal; 3. Quarantine hook; 4. Rasp rod; 5. Disinfectant; 6. Personal protective equipment.		
EVIDENCE REQUIREMENT			
PRACTICAL PERFORMANCE		UNDERPINNING KNOWLEDGE	
The person performing this task must be able to do the following:  1. Choose appropriate equipment and drugs; 2. Number uniformly; 3. Check the head and hoof; 4. Check viscera; 5. Check carcass; 6. Perform re-examination; 7. Process the results; 8. Disinfection; 9. Do harmless treatment; 10. Take proper personal protection; 11. Record quarantine.		Detailed knowledge about: <b>1.0 Methods</b>  The person performing this task must be able to explain how to:  1.1 Carry out sensory examination (visual examination, necropsy, touch examination and olfactory examination);  1.2 Issue the Animal Quarantine Certificate for those passing the quarantine inspection;  1.3 Issue the Notice of Animal Quarantine Treatment for those failing to pass the quarantine inspection;  1.3 Disinfection;  1.4 Harmless treatment.  <b>2.0 Principle</b>	

<p>12. Observe health, occupational and environmental safety rules and regulations</p>	<p>The person performing this task must be able to explain the following principles:</p> <ul style="list-style-type: none"> <li>2.1 Purpose and significance of sheep quarantine after slaughter;</li> <li>2.2 Procedures and methods of post-slaughter quarantine of sheep;</li> <li>2.2 Treatment of quarantine results of sheep after slaughter.</li> </ul> <p><b>3.0 Theories</b></p> <p>The person performing this task must be able to explain the following:</p> <ul style="list-style-type: none"> <li>3.1 Relevant regulations on animal epidemic prevention;</li> <li>3.2 Requirements for post-slaughter quarantine of animals;</li> <li>3.3 Pathological changes of prescribed diseases in sheep;</li> <li>3.4 Commonly-used disinfecting methods;</li> <li>3.5 Use method of the protective mask.</li> </ul> <p><b>4.0 Essential Skills</b></p> <ul style="list-style-type: none"> <li>4.1 Communication skills;</li> <li>4.2 Teamwork skills;</li> <li>4.3 Practical operation skills;</li> <li>4.4 Comprehensive analysis skills;</li> <li>4.5 Problem-solving skills;</li> <li>4.6 Entrepreneurial skills.</li> </ul>
<p><b>DESCRIPTION OF THE END PRODUCT / SERVICE</b></p>	<p>Post-slaughter quarantine and treatment of sheep is conducted in accordance with technical requirements.</p>
<p><b>CIRCUMSTANTIAL KNOWLEDGE</b></p>	<p><b>Detailed knowledge about:</b></p> <ul style="list-style-type: none"> <li>1. Quarantine regulations for sheep after slaughter;</li> <li>2. Health and safety protection in the process of post-slaughter quarantine;</li> <li>3. Biosafety knowledge.</li> </ul>

OCCUPATION	LIVESTOCK VETERINARY TECHNICIAN	OCCUPATION CODE	
DUTY TITLE	CONDUCT POST-SLAUGHTER QUARANTINE AND TREATMENT	DUTY NO.	606
TASK TITLE	CARRY OUT POST-SLAUGHTER QUARANTINE AND TREATMENT OF PIGS	TASK NO.	6063
PERFORMANCE CRITERIA	The person performing this task must be able to carry out post-slaughter quarantine and treatment of pig according to technical requirements of post-slaughter quarantine and treatment of pigs.		
RANGE STATEMENT	This task must be performed by the official veterinarian in the slaughter house during the slaughter of pig. The instruments and drugs to be used include:  1. Quarantine knives (2); 2. Sharp knife for bone removal; 3. Quarantine hook; 4. Rasp rod; 5. Disinfectant; 6. Personal protective equipment.		
EVIDENCE REQUIREMENT			
PRACTICAL PERFORMANCE		UNDERPINNING KNOWLEDGE	
The person performing this task must be able to do the following:  1. Choose appropriate equipment and drugs; 2. Number uniformly; 3. Check African swine fever quickly; 4. Check the head, hoof and body; 5. Check the internal organs; 6. Check the carcass; 7. Check Trichinella spiralis; 8. Perform re-examination 9. Process the results; 10. Disinfect; 11. Do harmless treatment; 12. Take proper personal protection; 13. Record quarantine.		Detailed knowledge about:  1.0 Methods  The person performing this task must be able to explain how to:  1.1 Carry out sensory examination (visual examination, necropsy, touch examination and olfactory examination); 1.2 Undertake microscopic examination; 1.3 Issue the Animal Quarantine Certificate for those passing the quarantine inspection; 1.4 Issue the Notice of Animal Quarantine Treatment for those failing to pass the quarantine inspection; 1.5 Disinfection; 1.6 Harmless treatment.  2.0 Principle	

<p>14. Observe health, occupational and environmental safety rules and regulations</p>	<p>The person performing this task must be able to explain the following principles:</p> <p>2.1 Purpose and significance of pig quarantine after slaughter;</p> <p>2.2 Procedures and methods of post-slaughter quarantine of pig;</p> <p>2.2 Treatment of quarantine results of pig after slaughter.</p> <p><b>3.0 Theories</b></p> <p>The person performing this task must be able to explain the following:</p> <p>3.1 Relevant regulations on animal epidemic prevention;</p> <p>3.2 Requirements for post-slaughter quarantine of animals;</p> <p>3.3 Pathological changes of prescribed diseases in pig;</p> <p>3.4 Commonly-used disinfecting methods;</p> <p>3.5 Use method of the protective mask.</p> <p><b>4.0 Essential Skills</b></p> <p>4.1 Communication skills;</p> <p>4.2 Teamwork skills;</p> <p>4.3 Practical operation skills;</p> <p>4.4 Comprehensive analysis skills;</p> <p>4.5 Problem-solving skills;</p> <p>4.6 Entrepreneurial skills.</p>
<p><b>DESCRIPTION OF THE END PRODUCT / SERVICE</b></p>	<p>Post-slaughter quarantine and treatment of pigs is performed in accordance with technical requirements.</p>
<p><b>CIRCUMSTANTIAL KNOWLEDGE</b></p>	<p><b>Detailed knowledge about:</b></p> <ol style="list-style-type: none"> <li>1. Quarantine regulations for pig after slaughter;</li> <li>2. Examination of <i>Trichinella spiralis</i> in pigs;</li> <li>3. Health and safety protection in the process of post-slaughter quarantine;</li> <li>4. Biosafety knowledge.</li> </ol>

OCCUPATION	LIVESTOCK VETERINARY TECHNICIAN	OCCUPATION CODE	
DUTY TITLE	CONDUCT POST-SLAUGHTER QUARANTINE AND TREATMENT	DUTY NO.	606
TASK TITLE	CARRY OUT POST-SLAUGHTER QUARANTINE AND TREATMENT OF POULTRY	TASK NO.	6064
PERFORMANCE CRITERIA	The person performing this task must be able to carry out post-slaughter quarantine and treatment of poultry according to the technical requirements of post-slaughter quarantine and treatment of poultry		
RANGE STATEMENT	This task must be performed by the official veterinarian in the slaughter house during the slaughter of poultry. The instruments and drugs to be used include:  1. Quarantine knives (2); 2. Sharp knife for bone removal; 3. Quarantine hook; 4. Rasp rod; 5. Disinfectant; 6. Personal protective equipment.		
EVIDENCE REQUIREMENT			
PRACTICAL PERFORMANCE		UNDERPINNING KNOWLEDGE	
The person performing this task must be able to do the following:  1. Choose appropriate equipment and drugs; 2. Check carcass; 3. Make sampling inspection; 4. Perform re-examination 5. Process the results; 6. Disinfect; 7. Do harmless treatment; 8. Take proper personal protection; 9. Record quarantine. 10. Observe health, occupational and environmental safety rules and regulations		Detailed knowledge about:  <b>1.0 Methods</b>  The person performing this task must be able to explain how to:  1.1 Carry out sensory examination (visual examination, necropsy, touch examination and olfactory examination);  1.2 Issue the Animal Quarantine Certificate for those passing the quarantine inspection;  1.3 Issue the Notice of Animal Quarantine Treatment for those failing to pass the quarantine inspection;  1.4 Disinfection;  1.5 Harmless treatment.  <b>2.0 Principle</b>  The person performing this task must be able to explain the following principles:	

	<p>2.1 Purpose and significance of poultry quarantine after slaughter;</p> <p>2.2 Procedures and methods of post-slaughter quarantine of poultry;</p> <p>2.2 Treatment of quarantine results of poultry after slaughter.</p> <p><b>3.0 Theories</b></p> <p>The person performing this task must be able to explain the following:</p> <p>3.1 Relevant regulations on animal epidemic prevention;</p> <p>3.2 Requirements for post-slaughter quarantine of animals;</p> <p>3.3 Pathological changes of prescribed diseases in poultry;</p> <p>3.4 Commonly-used disinfecting methods;</p> <p>3.5 Use method of the protective mask.</p> <p><b>4.0 Essential Skills</b></p> <p>4.1 Communication skills;</p> <p>4.2 Teamwork skills;</p> <p>4.3 Practical operation skills;</p> <p>4.4 Comprehensive analysis skills;</p> <p>4.5 Problem-solving skills;</p> <p>4.6 Entrepreneurial skills.</p>
<b>DESCRIPTION OF THE END PRODUCT / SERVICE</b>	Post-slaughter quarantine and treatment of poultry is performed in accordance with technical requirements.
<b>CIRCUMSTANTIAL KNOWLEDGE</b>	<p><b>Detailed knowledge about:</b></p> <ol style="list-style-type: none"> <li>1. Quarantine regulations for poultry after slaughter;</li> <li>2. Health and safety protection in the process of post-slaughter quarantine;</li> <li>3. Biosafety knowledge.</li> </ol>

OCCUPATION	LIVESTOCK VETERINARY TECHNICIAN	OCCUPATION CODE	
DUTY TITLE	CONDUCT POST-SLAUGHTER QUARANTINE AND TREATMENT	DUTY NO.	606
TASK TITLE	CARRY OUT POST-SLAUGHTER QUARANTINE AND TREATMENT OF RABBITS	TASK NO.	6065
PERFORMANCE CRITERIA	The person performing this task must be able to carry out post-slaughter quarantine and treatment of rabbits according to technical requirements of post-slaughter quarantine and treatment of rabbits.		
RANGE STATEMENT	This task must be performed by the official veterinarian in the slaughter house during the slaughter of rabbit. The instruments and drugs to be used include:  1. Quarantine knives (2); 2. Sharp knife for bone removal; 3. Quarantine hook; 4. Rasp rod; 5. Disinfectant; 6. Personal protective equipment.		
EVIDENCE REQUIREMENT			
PRACTICAL PERFORMANCE		UNDERPINNING KNOWLEDGE	
The person performing this task must be able to do the following:  1. Choose appropriate equipment and drugs; 2. Make sampling inspection; 3. Check the internal organs; 4. Take re-examination; 5. Process the results; 6. Disinfect; 7. Do non-destructive test treatment; 8. Take proper personal protection; 9. Record quarantine. 10. Observe health, occupational and environmental safety rules and regulations		Detailed knowledge about: <b>1.0 Methods</b>  The person performing this task must be able to explain how to:  1.1 Carry out sensory examination (visual examination, necropsy, touch examination and olfactory examination);  1.2 Issue the Animal Quarantine Certificate for those passing the quarantine inspection;  1.3 Issue the Notice of Animal Quarantine Treatment for those failing to pass the quarantine inspection;  1.4 Disinfect;  1.5 Do harmless treatment.  <b>2.0 Principle</b>	

	<p>The person performing this task must be able to explain the following principles:</p> <p>2.1 Purpose and significance of rabbit quarantine after slaughter;</p> <p>2.2 Procedures and methods of post-slaughter quarantine of rabbit;</p> <p>2.2 Treatment of quarantine results of rabbit after slaughter.</p> <p><b>3.0 Theories</b></p> <p>The person performing this task must be able to explain the following:</p> <p>3.1 Relevant regulations on animal epidemic prevention;</p> <p>3.2 Requirements for post-slaughter quarantine of animals;</p> <p>3.3 Pathological changes of prescribed diseases in rabbit;</p> <p>3.4 Commonly-used disinfecting methods;</p> <p>3.5 Use method of the protective mask.</p> <p><b>4.0 Essential Skills</b></p> <p>4.1 Communication skills;</p> <p>4.2 Teamwork skills;</p> <p>4.3 Practical operation skills;</p> <p>4.4 Comprehensive analysis skills;</p> <p>4.5 Problem-solving skills;</p> <p>4.6 Entrepreneurial skills.</p>
<b>DESCRIPTION OF THE END PRODUCT / SERVICE</b>	Post-slaughter quarantine and treatment of rabbits is performed in accordance with technical requirements.
<b>CIRCUMSTANTIAL KNOWLEDGE</b>	<p><b>Detailed knowledge about:</b></p> <p>1. Quarantine regulations for rabbit after slaughter;</p> <p>2. Health and safety protection in the process of post-slaughter quarantine;</p> <p>3. Biosafety knowledge.</p>



OCCUPATION	LIVESTOCK VETERINARY TECHNICIAN	OCCUPATION CODE	
DUTY TITLE	PERFORM ANIMAL FEEDING AND MANAGEMENT	DUTY NO.	607
TASK TITLE	CONDUCT MANAGEMENT OF DELIVERY ROOM	TASK NO.	6071
PERFORMANCE CRITERIA	The person performing this task must be able to manage the delivery room in accordance with the technical requirements and the key points of standardized management of the delivery room.		
RANGE STATEMENT	The task can be performed in the delivery room under the supervision of a senior Livestock Veterinary Technician or a Midwife. The tools and equipment to be used include: 1. Water basin; 2. Bucket; 3. Gauze; 4. Ligation rope; 5. Lighting equipment; 6. Soap; 7. Thermometer; 8. Cotton; 9. Tooth cutting and tail cutting tools (tooth cutting forceps and tail cutting forceps); 10. Disinfection drugs (alcohol, 2-5% iodine, 0.1% bromogeramine); 11. Delivery drugs (oxytocin, cardiotonic agent, antibiotic, glucose saline, etc.); 12. Young animals’ incubator. 13. Safety gear		
EVIDENCE REQUIREMENT			
PRACTICAL PERFORMANCE		UNDERPINNING KNOWLEDGE	
The person performing this task must be able to do the following: 1. Observe the health and safety prevention measures; 2. Choose appropriate prenatal articles and tools; 3. Assist delivery stably, accurately, lightly and quickly according to the requirements of delivery; 4. Carry out drug midwifery first in case of death and artificial midwifery if drug midwifery is ineffective.		Detailed knowledge about: <b>1.0 Methods</b> The person performing this task must be able to explain how to: 1.1 Prepare implementation plans for delivery room preparation, delivery goods preparation, delivery process, dystocia treatment, and nursing of newborn animals.  <b>2.0 Principle</b> The person performing this task must be able to explain the following principles: 2.1 Implementation principle of normal delivery;	

5. Carry out umbilical cord cutting treatment on the produced piglets; 6. Assist primiparous piglets to eat colostrum; 7. Observe the situation of newborn animals at any time; 8. Clean the tools, equipment and delivery room; 9. Store tools and equipment safely.	2.2 Implementation principle of dystocia.  <b>3.0 Theories</b> The person performing this task must be able to explain the following: 3.1 Reason for dystocia; 3.2 Management plan of delivery room and its implementation method; 3.3 Basis for receiving delivery and treatment of emergency; 3.4 Determine the specific process of delivery.  <b>4.0 Essential Skills</b> 4.1 Communication skills; 4.2 Practical coping skills; 4.3 Teamwork skills; 4.4 Report writing skills.
<b>DESCRIPTION OF THE END PRODUCT / SERVICE</b>	The delivery room is managed in accordance with the technical requirements and the key points of standardized management of the delivery room.
<b>CIRCUMSTANTIAL KNOWLEDGE</b>	<b>Detailed knowledge about:</b> 1. Safe operation methods of equipment and instruments; 2. Key points of safe use of various drugs; 3. Occupational health and safety; 4. Operation strategy and steps of midwifery; 5. Disposal method of excrement and waste.

OCCUPATION	LIVESTOCK VETERINARY TECHNICIAN	OCCUPATION CODE	
DUTY TITLE	PERFORM ANIMAL FEEDING AND MANAGEMENT	DUTY NO.	607
TASK TITLE	CARY OUT FEEDING AND MANAGEMENT OF SUCKLING YOUNG ANIMALS	TASK NO.	6072
PERFORMANCE CRITERIA	The person performing this task must be able to carry out feeding and management of suckling young animals in accordance with the technical requirements and animal characteristics.		
RANGE STATEMENT	The task can be performed in the nursery house under the supervision of a senior Livestock Veterinary Technician or an Zootechnician. The tools and equipment to be used include:  1. Nursing bed; 2. Crib; 3. Water dispenser; 4. Heating equipment (infrared lamp, resistance wire heater, gas heater, electric heating pad); 5. Lighting equipment; 6. Temperature controller; 7. Thermometer; 8. Dung removal equipment; 9. Disinfection drugs (alcohol, 2-5% iodine, 0.1% bromogeramine); 10. Immunization supplies (vaccines, syringes); 11. Nutritional supplements (iron and selenium supplements, glucose, sodium bicarbonate, Vitamin C); 12. Young animals’ incubator 13. Safety gear		
EVIDENCE REQUIREMENT			
PRACTICAL PERFORMANCE		UNDERPINNING KNOWLEDGE	
The person performing this task must be able to do the following:  1. Observe the health and safety prevention measures; 2. Choose appropriate instruments; 3. Help young animals develop the habit of fixing nipples and eating colostrum;		Detailed knowledge about:  1.0 Methods  The person performing this task must be able to explain how to:  1.1 Prepare the nursery; 1.2 Prepare feeding items; 1.3 Develop the habit of fixing nipples;	

<ol style="list-style-type: none"> <li>4. Regulate the ambient temperature and pay attention to cold and warmth;</li> <li>5. Pay attention to prevention to prevent young animals from being trampled;</li> <li>6. Vaccinate young animals according to immunization procedures;</li> <li>7. Supplement nutrition according to the growth and development characteristics of young animals;</li> <li>8. Clean the nursery;</li> <li>9. Store equipment safely.</li> </ol>	<ol style="list-style-type: none"> <li>1.4 Adjust and control the temperature in the house;</li> <li>1.5 Pay attention to immunization program;</li> <li>1.6 Use nutritional supplements;</li> <li>1.7 Respond to emergencies.</li> </ol> <p><b>2.0 Principle</b></p> <p>The person performing this task must be able to explain the following principles:</p> <ol style="list-style-type: none"> <li>2.1 Principles to be followed in feeding and management of suckling young animals.</li> </ol> <p><b>3.0 Theories</b></p> <p>The person performing this task must be able to explain the following:</p> <ol style="list-style-type: none"> <li>3.1 Implementation process of helping young animals form the habit of fixing nipples and eating colostrum;</li> <li>3.2 Temperature control method in house;</li> <li>3.3 Execution basis of immunization program;</li> <li>3.4 Use of nutritional supplements.</li> </ol> <p><b>4.0 Essential Skills</b></p> <ol style="list-style-type: none"> <li>4.1 Communication skills;</li> <li>4.2 Practical coping skills;</li> <li>4.3 Teamwork skills;</li> <li>4.4 Report writing skills.</li> </ol>
<p><b>DESCRIPTION OF THE END PRODUCT / SERVICE</b></p>	<p>Specialized feeding and management of young suckling animals is conducted in accordance with technical requirements and the characteristics of lactating young animals.</p>
<p><b>CIRCUMSTANTIAL KNOWLEDGE</b></p>	<p><b>Detailed knowledge about:</b></p> <ol style="list-style-type: none"> <li>1. Safe operation key points of equipment and instruments;</li> <li>2. Rules of safe use of various drugs;</li> <li>3. Occupational health and safety;</li> <li>4. Operation strategy and steps of feeding;</li> <li>5. Disposal method of excrement and waste.</li> </ol>

OCCUPATION	LIVESTOCK VETERINARY TECHNICIAN	OCCUPATION CODE	
DUTY TITLE	PERFORM ANIMAL FEEDING AND MANAGEMENT	DUTY NO.	607
TASK TITLE	CARRY OUT FEEDING AND MANAGEMENT OF FATTENING PIGS	TASK NO.	6073
PERFORMANCE CRITERIA	The person performing this task must be able to carry out professional feeding management and fattening of pigs in accordance with technical requirements and the characteristics of fattening pig.		
RANGE STATEMENT	The task can be performed in fattening pig houses under the supervision of livestock veterinary technicians or zootechnicians. The tools and equipment to be used include:  1. Fattening column; 2. Crib; 3. Water dispenser; 4. Heating equipment (hot water heating, warm air heating, flue heating); 5. Lighting equipment; 6. Environmental control equipment (ventilation equipment, humidity controller, sprayer); 7. Thermometer; 8. Dung removal equipment; 9. Disinfection drugs (alcohol, 2-5% iodine, 0.1% bromogeramine); 10. Immunization supplies (vaccines, syringes); 11. Insect repellent products (ivermectin, levamisole hydrochloride, etc.); 12. Nutritional supplements. 13. Safety gear		
EVIDENCE REQUIREMENT			
PRACTICAL PERFORMANCE		UNDERPINNING KNOWLEDGE	
The person performing this task must be able to do the following:  1. Observe the health and safety prevention measures; 2. Choose appropriate instruments; 3. Make preparations before the group transfer; 4. Group scientifically according to the differences when entering the group;		Detailed knowledge about:  1.0 Methods  The person performing this task must be able to explain how to:  1.1 Prepare the fattening house; 1.2 Prepare feeding items; 1.3 Judge the grouping basis;	

<ol style="list-style-type: none"> <li>5. Feed scientifically;</li> <li>6. Regulate the temperature and humidity in the house;</li> <li>7. Clean the equipment in time and clean up the hygiene of the barn;</li> <li>8. Carry out immunization according to the procedure;</li> <li>9. Store tools and equipment safely.</li> </ol>	<ol style="list-style-type: none"> <li>1.4 Regulate and control the environment in the house;</li> <li>1.5 Pay attention to deworming and immunization procedures;</li> <li>1.6 Use nutritional supplements;</li> <li>1.7 Respond to emergencies.</li> </ol> <p><b>2.0 Principle</b></p> <p>The person performing this task must be able to explain the following principles:</p> <ol style="list-style-type: none"> <li>2.1 Nutritional principles followed in the process of feeding fattening pigs;</li> <li>2.2 Characteristics of fattening pigs at different growth stages;</li> <li>2.3 Principle of reasonable grouping.</li> </ol> <p><b>3.0 Theories</b></p> <p>The person performing this task must be able to explain the following:</p> <ol style="list-style-type: none"> <li>3.1 Characteristics of fattening pigs at different growth stages;</li> <li>3.2 Feed formula for fattening pigs at different growth stages;</li> <li>3.3 Use characteristics of nutritional supplements in different stages.</li> </ol> <p><b>4.0 Essential Skills</b></p> <ol style="list-style-type: none"> <li>4.1 Communication skills;</li> <li>4.2 Practical coping skills;</li> <li>4.3 Teamwork skills;</li> <li>4.4 Report writing skills.</li> </ol>
<p><b>DESCRIPTION OF THE END PRODUCT / SERVICE</b></p>	<p>Feeding and management of fattening pigs is conducted in accordance with the technical requirements and the characteristics of fattening pig.</p>
<p><b>CIRCUMSTANTIAL KNOWLEDGE</b></p>	<p><b>Detailed knowledge about:</b></p> <ol style="list-style-type: none"> <li>1. Commonly used equipment and instruments;</li> <li>2. Commonly used drugs;</li> <li>3. Occupational health standard</li> </ol>

	<ol style="list-style-type: none"><li>4. Feeding operating strategies;</li><li>5. Disposal of excrement and waste.</li></ol>
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OCCUPATION	LIVESTOCK VETERINARY TECHNICIAN	OCCUPATION CODE	
DUTY TITLE	CONDUCT ANIMAL FEEDING AND MANAGEMENT	DUTY NO.	607
TASK TITLE	CARRY OUT FEEDING AND MANAGEMENT OF LAYING CHICKEN	TASK NO.	6074
PERFORMANCE CRITERIA	The person performing this task must be able to carry out professional feeding and management of laying hen in accordance with the technical requirements and characteristics of laying chicken.		
RANGE STATEMENT	The task can be performed in the henhouse under the supervision of a senior Livestock Veterinary Technician or an Zootechnician. The tools and equipment to be used include:  1. Laying hen coop; 2. Automatic feeder; 3. Automatic water dispenser; 4. Automatic manure cleaner; 5. Lighting equipment; 6. Automatic temperature control and ventilation equipment; 7. Illumination facilities; 8. Automatic egg collection equipment; 9. Disinfection drugs (alcohol, 2-5% iodine, 0.1% bromogeramine); 10. Immunization supplies (vaccines, syringes); 11. Insect repellent products (albendazole ivermectin, Lechang, etc.); 12. Nutritional supplements. 13. Safety gear.		
EVIDENCE REQUIREMENT			
PRACTICAL PERFORMANCE		UNDERPINNING KNOWLEDGE	
The person performing this task must be able to do the following:  1. Observe the health and safety prevention measures; 2. Choose appropriate items and tools; 3. Handle the brooding period; 4. Do a good job in group transfer and eliminate sick and disabled chicken in time;		Detailed knowledge about: <b>1.0 Methods</b>  The person performing this task must be able to explain how to:  1.1 Prepare the henhouse; 1.2 Prepare feeding items; 1.3 Prepare illumination procedures; 1.4 Regulate and control the environment in the house;	



<ol style="list-style-type: none"> <li>5. Do a good job in prenatal management;</li> <li>6. Supplement light during the laying period;</li> <li>7. Regulate the temperature and humidity in the house properly;</li> <li>8. Clean tools and equipment in time, clean the barn and keep it clean and dry;</li> <li>9. Carry out deworming and immunization according to procedures;</li> <li>10. Store tools and equipment safely.</li> </ol>	<ol style="list-style-type: none"> <li>1.5 Pay attention to deworming and immunization procedures;</li> <li>1.6 Use nutritional supplements;</li> <li>1.7 Respond to emergencies.</li> </ol> <p><b>2.0 Principle</b></p> <p>The person performing this task must be able to explain the following principles:</p> <ol style="list-style-type: none"> <li>2.1 Nutritional principles followed in the process of feeding laying hen;</li> <li>2.2 Principle of reasonable grouping;</li> <li>2.3 Characteristics of laying hens in different growth stages.</li> </ol> <p><b>3.0 Theories</b></p> <p>The person performing this task must be able to explain the following:</p> <ol style="list-style-type: none"> <li>3.1 Feed formula for laying hen at different growth stages;</li> <li>3.2 Use characteristics of nutritional supplements in different stages.</li> </ol> <p><b>4.0 Essential Skills</b></p> <ol style="list-style-type: none"> <li>4.1 Communication skills;</li> <li>4.2 Practical coping skills;</li> <li>4.3 Teamwork skills;</li> <li>4.4 Report writing skills.</li> </ol>
<p><b>DESCRIPTION OF THE END PRODUCT / SERVICE</b></p>	<p>Feeding and management of laying chicken is carried out in accordance with technical requirements and the characteristics of laying chicken.</p>
<p><b>CIRCUMSTANTIAL KNOWLEDGE</b></p>	<p><b>Detailed knowledge about:</b></p> <ol style="list-style-type: none"> <li>1. Commonly used equipment and instruments;</li> <li>2. Commonly used drugs;</li> <li>3. Occupational health standard</li> <li>4. Feeding operating strategies;</li> <li>5. Disposal of excrement and waste.</li> </ol>

OCCUPATION	LIVESTOCK VETERINARY TECHNICIAN	OCCUPATION CODE	
DUTY TITLE	PERFORM ANIMAL FEEDING AND MANAGEMENT	DUTY NO.	607
TASK TITLE	CONDUCT FEEDING AND MANAGEMENT OF DAIRY COWS	TASK NO.	6075
PERFORMANCE CRITERIA	The person performing this task must be able to carry out professional feeding and management of dairy cows in accordance with technical requirements and the characteristics of dairy cows at different stages.		
RANGE STATEMENT	The task can be performed in cattle farms under the supervision of middle and senior Livestock Veterinary Technicians or Zootechnician. The tools and equipment to be used include:  1. Neck yoke; 2. Bed for lying; 3. Feeding grains; 4. Drinking water equipment; 5. Environmental control equipment; 6. Sports fields; 7. Mating equipment (semen treatment equipment, estrus identification equipment, pregnancy examination equipment, obstetric examination equipment, midwifery equipment, obstetric treatment equipment); 8. Washing equipment; 9. Dung cleaning equipment; 10. Milking equipment; 11. Disinfection drugs (alcohol, 2-5% iodine, 0.1% bromogeramine); 12. Deworming and immunization supplies (deworming drugs, vaccines, syringes).		
EVIDENCE REQUIREMENT			
PRACTICAL PERFORMANCE		UNDERPINNING KNOWLEDGE	
The person performing this task must be able to do the following:  1. Observe the health and safety prevention measures; 2. Choose appropriate items and tools; 3. Prepare feed according to the feeding standard of dairy cows; 4. Divide dairy cows into groups;		Detailed knowledge about: <b>1.0 Methods</b>  The person performing this task must be able to explain how to:  1.1 Prepare farm facilities used in the farm; 1.2 Prepare feeding items; 1.3 Standardize milking procedures;	

<ol style="list-style-type: none"> <li>5. Do well the work of preventing heat and lowering temperature, preventing cold and keeping warm;</li> <li>6. Ensure daily exercise;</li> <li>7. Follow the milking standard procedures strictly;</li> <li>8. Clean tools and equipment in time, clean the barn and keep it clean and dry;</li> <li>9. Carry out deworming and immunization according to procedures;</li> <li>10. Store tools and equipment safely.</li> </ol>	<ol style="list-style-type: none"> <li>1.4 Regulate and control the environment in the field;</li> <li>1.5 Pay attention to deworming and immunization procedures;</li> <li>1.6 Respond to emergencies.</li> </ol> <p><b>2.0 Principle</b></p> <p>The person performing this task must be able to explain the following principles:</p> <ol style="list-style-type: none"> <li>2.1 Nutritional principles followed in the process of feeding dairy cows;</li> <li>2.2 Principle of reasonable grouping.</li> </ol> <p><b>3.0 Theories</b></p> <p>The person performing this task must be able to explain the following:</p> <ol style="list-style-type: none"> <li>3.1 Characteristics of dairy cows at different growth stages;</li> <li>3.2 Feed formula for dairy cows at different growth stages;</li> <li>3.3 Use characteristics of nutritional supplements in different stages.</li> </ol> <p><b>4.0 Essential Skills</b></p> <ol style="list-style-type: none"> <li>4.1 Communication skills;</li> <li>4.2 Practical coping skills;</li> <li>4.3 Teamwork skills;</li> <li>4.4 Report writing skills.</li> </ol>
<p><b>DESCRIPTION OF THE END PRODUCT / SERVICE</b></p>	<p>Feeding and management of dairy cows is conducted in accordance with the technical requirements and characteristics of dairy cows.</p>
<p><b>CIRCUMSTANTIAL KNOWLEDGE</b></p>	<p><b>Detailed knowledge about:</b></p> <ol style="list-style-type: none"> <li>1. Commonly used equipment and instruments;</li> <li>2. Commonly used drugs;</li> <li>3. Occupational health standard;</li> <li>4. Feeding operating strategies;</li> <li>5. Disposal of excrement and waste.</li> </ol>

## APPENDIX: LIVESTOCK VETERINARY TECHNICIAN DACUM TABLE -NTA LEVEL

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DUTIES	TASKS	ENABLERS
1.0 Monitor immunization effects	1.1 Conduct treatment of adverse immunization reaction.	<b>General skills and knowledge</b> <ul style="list-style-type: none"> <li>• Identification of different types of adverse immunization reactions</li> <li>• Measurement of animal body temperature</li> <li>• Identification of animal breathing and heart sounds</li> <li>• Weigh and calculation of the dosage of drugs</li> <li>• Intramuscular injection</li> <li>• Subcutaneous injection</li> <li>• Venipuncture procedure</li> <li>• Selection and application of drugs</li> <li>• Blood collection from poultry wing veins</li> <li>• Blood collection from porcine anterior vena cava</li> <li>• Blood collection from jugular vein of cattle and sheep</li> <li>• Blood collection from oxtail jugular vein</li> <li>• Serum isolation and preservation</li> <li>• Serum agglutination test</li> <li>• Operation of the haemagglutination-hemagglutination inhibition test</li> <li>• Operation of enzyme-linked immunosorbent assay</li> <li>• Animal care</li> <li>• Clean of disinfection tools, equipment and workplaces</li> <li>• Knowledge of animal immunization</li> <li>• Knowledge of animal pharmacology</li> <li>• Knowledge of biosafety</li> <li>• Medical waste disposal methods</li> </ul> <b>Tools and equipment</b> <ul style="list-style-type: none"> <li>• Veterinary thermometer</li> <li>• Stethoscope</li> </ul>
	1.2 Carry out evaluation of immunization potency.	
	1.3 Prepare the immunization programme.	

DUTIES	TASKS	ENABLERS
		<ul style="list-style-type: none"> <li>• Disposable syringe</li> <li>• Mask</li> <li>• Disposable latex gloves</li> <li>• Protective clothing</li> <li>• Platform scales or weighing scales</li> <li>• Veterinary blood collectors</li> <li>• Electrothermostat</li> <li>• Benchtop low-speed centrifuge</li> <li>• Pipette</li> <li>• 96-well plate</li> <li>• ELIASA</li> <li>• Tray balance</li> <li>• Oscillator</li> <li>• Mask and disposable latex glove</li> <li>• Protective clothing</li> <li>• Refrigerator</li> </ul> <p><b>Materials</b></p> <ul style="list-style-type: none"> <li>• Standard antigenic substances</li> <li>• Standard positive sera</li> <li>• Standard positive sera</li> <li>• Anticoagulants</li> <li>• Antibody detect kit</li> <li>• Deionized water</li> </ul> <p><b>Requirements for employees</b></p> <ul style="list-style-type: none"> <li>• Teamwork</li> <li>• Scientific spirit</li> <li>• Carefulness and preciseness</li> <li>• Time management</li> </ul>
2.0 Perform collection and delivery of pathological tissue samples	2.1 Carry out collection and preservation of pathological tissue samples.	<p><b>General skills and knowledge</b></p> <ul style="list-style-type: none"> <li>• Select suitable pathological samples for different diseases</li> <li>• Pathological anatomy of poultry</li> <li>• Pathological anatomy of pigs</li> <li>• Pathological anatomy of ruminants</li> </ul>
	2.2 Carry out collection and preservation of	

DUTIES	TASKS	ENABLERS
	<p>pathogen analysis samples.</p> <p>2.3 Conduct transportation of samples.</p>	<ul style="list-style-type: none"> <li>• Preparation of fixation fluid for pathological samples.</li> <li>• Clean of disinfection tools, equipment and workplaces</li> <li>• Preparation of liquid</li> <li>• Collection of animal blood</li> <li>• Serum separation</li> <li>• Use of autoclave</li> <li>• Disinfection and clean of anatomical instruments</li> </ul> <p><b>Tools and equipment</b></p> <ul style="list-style-type: none"> <li>• Sterilized scalpel</li> <li>• Sterilized surgical scissors</li> <li>• Sterilized tweezers</li> <li>• Sterilized glass bottle, capped centrifuge tube, plate</li> <li>• Autoclave</li> <li>• Refrigerator, freezer</li> <li>• Alcohol lamp</li> <li>• Syringe</li> <li>• Mask and disposable latex glove</li> <li>• Protective clothing</li> <li>• Protective mask</li> </ul> <p><b>Materials</b></p> <ul style="list-style-type: none"> <li>• Anticoagulants</li> <li>• Phosphate buffer</li> <li>• Hank's solution</li> <li>• Formalin solution</li> </ul> <p><b>Requirements for employees</b></p> <ul style="list-style-type: none"> <li>• Teamwork</li> <li>• Scientific spirit</li> <li>• Carefulness and preciseness</li> <li>• Time management</li> </ul>
	3.1 Carry out examination of worm	<b>General skills and knowledge</b>

<b>DUTIES</b>	<b>TASKS</b>	<b>ENABLERS</b>
3.0 Conduct parasite examination	eggs, larvae and coccidia oocysts in feces.	<ul style="list-style-type: none"> <li>• Collection of appropriate case samples for different diseases</li> <li>• Operating procedure of parasite detection</li> <li>• Skills and knowledge in laboratory examination of parasites</li> <li>• Identification of parasite map</li> <li>• Use of microscope, centrifuge, incubator and other instruments and equipment</li> <li>• Animal Parasitology</li> </ul>
	3.2 Perform examination of parasites in scraped objects of skin.	
	3.3 Carry out examination of parasite in organs and tissues.	
	3.4 Perform examination of protozoon and worm larvae in blood.	<p><b>Tools and equipment</b></p> <ul style="list-style-type: none"> <li>• Saline</li> <li>• Saturated brine</li> <li>• Anticoagulants</li> <li>• 10%NaOH</li> <li>• Cedar oil</li> <li>• Disinfectant</li> </ul> <p><b>Materials</b></p> <ul style="list-style-type: none"> <li>• Disposable latex gloves, masks, hats, experimental clothes and other personal protective equipment</li> <li>• Microscope, centrifuge, constant temperature incubator, pipette balance, etc.</li> <li>• Blood collector, blade, beaker, pipette tip, glass slide, centrifuge tube and other consumables</li> </ul> <p><b>Requirements for employees</b></p> <ul style="list-style-type: none"> <li>• Teamwork</li> <li>• Scientific spirit</li> <li>• Carefulness and preciseness</li> <li>• Time management</li> </ul>
	4.1 Carry out the blood routine examination.	<b>General skills and knowledge</b>

DUTIES	TASKS	ENABLERS
4.0 Perform clinical validation		<ul style="list-style-type: none"> <li>Collection of appropriate pathological material samples for different diseases</li> <li>Operating procedure of blood routine, urine and fecal clinical examination</li> </ul>
	4.2 Carry out urine routine examination.	<ul style="list-style-type: none"> <li>Skills and knowledge of blood routine, urine, feces and biochemical examination</li> <li>Interpretation of indicator of blood routine, urine, feces and biochemical examination</li> </ul>
	4.3 Conduct feces routine examination.	<ul style="list-style-type: none"> <li>Use of microscope, hematology analyzer, biochemical analyzer and other instruments and equipment</li> <li>Zoonomy</li> <li>Animal clinical diagnostics</li> </ul>
	4.4 Carry out biochemical examination.	<p><b>Tools and equipment</b></p> <ul style="list-style-type: none"> <li>Personal protective equipment such as gloves, hats and experimental clothes</li> <li>Microscope, hematology analyzer, biochemical analyzer, urine analyzer, centrifuge, pipette and other equipment</li> <li>Glass slide, centrifuge tube, glass rod, pipette tip and other consumables</li> </ul> <p><b>Materials</b></p> <ul style="list-style-type: none"> <li>Alcohol</li> <li>Saline</li> <li>Anticoagulants</li> <li>Preservative</li> <li>Wright Stain</li> <li>Giemsa stain</li> <li>Benzidine</li> <li>Disinfectant</li> </ul> <p><b>Requirements for employees</b></p> <ul style="list-style-type: none"> <li>Teamwork</li> <li>Scientific spirit</li> <li>Carefulness and preciseness</li> </ul>



DUTIES	TASKS	ENABLERS
		<ul style="list-style-type: none"> <li>Time management</li> </ul>
5.0 Conduct necropsy	5.1 Perform standard necropsy of livestock and poultry carcasses.	<b>General skills and knowledge</b> <ul style="list-style-type: none"> <li>Communication skills</li> <li>Knowledge of livestock and poultry anatomy</li> <li>Zoophysiology</li> <li>Biosafety protection</li> <li>Skills and knowledge of collection, packaging and inspection of pathological material</li> <li>Medical history investigation skills</li> <li>Skills of observation, description and recording of lesions</li> <li>Changes of animal carcasses after death</li> <li>Skills of making pathological tissue sections</li> <li>Lesion identification and analysis skills</li> <li>Skill of treating corpse in a harmless way</li> <li>Disinfection methods and skills</li> <li>Preparation and use of medicament</li> </ul> <b>Tools and equipment</b> <ul style="list-style-type: none"> <li>Work clothes, aprons, rubber gloves, rubber shoes, safety helmets, masks, goggles and other personal protective equipment</li> <li>Knives, scissors, tweezers, bone saws, axes, sharpening sticks, grindstones and other necropsy tools</li> <li>Slicing machine</li> <li>Microscope</li> <li>Refrigerator</li> <li>Camera</li> <li>Computer</li> <li>Printers</li> </ul> <b>Materials</b> <ul style="list-style-type: none"> <li>Carcass of disease livestock and poultry</li> </ul>
	5.2 Carry out identification of livestock and poultry organ lesions.	
	5.3 Perform identification of animal epidemic diseases by observing typical lesions.	
	5.4 Issue necropsy report of livestock and poultry carcasses.	

DUTIES	TASKS	ENABLERS
		<ul style="list-style-type: none"> <li>• Pathological sections such as fixation fluid, dehydration agent, transparency agent and staining solution</li> <li>• Disinfectant</li> </ul> <p><b>Requirements for employees</b></p> <ul style="list-style-type: none"> <li>• Teamwork</li> <li>• Scientific spirit</li> <li>• Carefulness and preciseness</li> <li>• Time management</li> </ul>
6.0 Conduct post-slaughter quarantine and treatment	6.1 Carry out post-slaughter quarantine and treatment of cattle.	<p><b>General skills and knowledge</b></p> <ul style="list-style-type: none"> <li>• Communication skills</li> <li>• Knowledge of livestock and poultry anatomy</li> <li>• Zoophysiology</li> <li>• Administrative regulations on animal husbandry and veterinary medicine</li> <li>• Identification skills of characteristic lesions of animal infectious diseases and parasitic diseases</li> <li>• Animal epidemic prevention and quarantine</li> <li>• Biosafety protection</li> <li>• Disinfection methods and skills</li> <li>• Selection of lymph nodes and observation skills of common lesions</li> <li>• Post-mortem inspection procedures and checkpoint setting</li> <li>• Identification and management skills of common pathological changes</li> <li>• Examination skills of head, hoof and skin</li> <li>• Visceral examination skills</li> <li>• Carcass inspection skills</li> <li>• Skill of treating disease corpse in a harmless way</li> </ul> <p><b>Tools and equipment</b></p> <ul style="list-style-type: none"> <li>• Work clothes, aprons, rubber gloves, rubber shoes, safety helmets, masks,</li> </ul>
	6.2 Carry out post-slaughter quarantine and treatment of sheep.	
	6.3 Carry out post-slaughter quarantine and treatment of pigs.	
	6.4 Carry out post-slaughter quarantine and treatment of poultry.	
	6.5 Carry out post-slaughter quarantine and treatment of rabbits.	

DUTIES	TASKS	ENABLERS
		<p>goggles and other personal protective equipment</p> <ul style="list-style-type: none"> <li>• Quarantine knives, sharp knife for bone removal, quarantine hooks, sharpening sticks and other quarantine tools</li> <li>• Microscope</li> <li>• Elbow scissors</li> <li>• Glass slide</li> <li>• Tissue triturator</li> <li>• Copper screen, nylon screen</li> <li>• Magnetic heating stirrer</li> <li>• Separating funnel, conical flask, beaker</li> </ul> <p><b>Materials</b></p> <ul style="list-style-type: none"> <li>• Livestock and poultry to be inspected after slaughter</li> <li>• Disinfectant</li> <li>• Trichinella spiralis meat inspection reagents such as hydrochloric acid solution, pepsin solution and glycerol solution</li> </ul> <p><b>Requirements for employees</b></p> <ul style="list-style-type: none"> <li>• Teamwork</li> <li>• Scientific spirit</li> <li>• Carefulness and preciseness</li> <li>• Time management</li> </ul>
7.0 Perform animal feeding and management	7.1 Conduct management of delivery room.	<p><b>General skills and knowledge</b></p> <ul style="list-style-type: none"> <li>• Correct delivery</li> <li>• Deal with emergencies such as dystocia</li> <li>• Nursing care of newborn piglets</li> <li>• Vaccination of young animals</li> <li>• Nutritional supplement for young animals</li> <li>• Transfer group correctly</li> <li>• Scientific feeding</li> <li>• House environment control</li> </ul>
	7.2 Carry out feeding and management of suckling young animals.	
	7.3 Carry out feeding and management of fattening pigs.	

DUTIES	TASKS	ENABLERS
	7.4 Carry out feeding and management of laying chicken.	<ul style="list-style-type: none"> <li>• Execution of illumination program correctly</li> <li>• Preparation of complete feed</li> <li>• Guarantee of daily exercise time</li> <li>• Heatstroke prevention, cold protection and warmth</li> <li>• Standardized milking</li> <li>• Cleaning tools and barn hygiene</li> </ul>
	7.5 Carry out feeding and management of dairy cows.	<p><b>Tools and equipment</b></p> <ul style="list-style-type: none"> <li>• Buckets, basins, gauze, scissors, cotton balls, scalpels and other delivery supplies</li> <li>• Lighting equipment</li> <li>• Heating equipment</li> <li>• Tooth cutting and tail cutting tools</li> <li>• Nursing bed</li> <li>• Complete set of feeding equipment</li> <li>• Environmental control equipment</li> <li>• Young animals' incubator</li> <li>• Automatic egg collection equipment</li> <li>• Mating equipment</li> <li>• Milking equipment</li> <li>• Cleaning and dung removal equipment</li> <li>• Immunization supplies</li> </ul> <p><b>Materials</b></p> <ul style="list-style-type: none"> <li>• Disinfection drug</li> <li>• Delivery drugs</li> <li>• Vaccine</li> <li>• Deworming drugs</li> <li>• Nutritional supplement</li> </ul> <p><b>Requirements for employees</b></p> <ul style="list-style-type: none"> <li>• Teamwork</li> <li>• Scientific spirit</li> <li>• Carefulness and preciseness</li> <li>• Time management</li> </ul>

