

National Occupational Skill Standard (NOSS)

Occupational Title : Livestock Junior Technician

Level : 3

Sector : Agriculture

Sub - Sector : Livestock

NOSS ID/NSCO ID :

ISCO NO :



Council for Technical Education and Vocational Training

NATIONAL SKILL TESTING BOARD

Madhyapur Thimi-17, Sanothimi, Bhaktapur, Nepal

Developed: 18-04-2025 (05-02-2082)



2045

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**Recommended by: Livestock Service Technical Sub Committee
June 2006 (2062/063)**



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**Recommended by: Livestock Service Technical Sub Committee
April 13, 2010 (2066/067)**



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The National Occupational Skill Standard Developed by:

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Recommended by Livestock Technical Sub Committee: 18 April2025 (05 Baishakh 2082)



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1	Occupational Title: Livestock Junior Technician Level: 3
2	Job Description: Livestock Junior Technical L-3, performs livestock husbandry activities, performs livestock breeding activities, manages livestock feed and pasture production practices, provides animal health care services, performs livestock research and extension related activities, facilitates livestock and livestock products marketing and financing activities.
3	UNITS OF COMPETENCY: <ol style="list-style-type: none"> 1. Perform livestock husbandry activities 2. Perform livestock breeding activities 3. Manage livestock feed and pasture production practices 4. Provide animal health care services 5. Perform livestock research and extension related activities 6. Facilitate livestock and livestock products marketing and financing activities 7. Perform communication 8. Develop professionalism <p><i>*Note: Units 7 and 8 are not for testing purpose.</i></p>



4

Qualifying Notes/Prerequisites:

- Physical Requirements: Sound health
- Entry Requirements: As per NSTB rules

Additional Information:

- Assessment Types: Performance and written test
- Assessment Duration: 12 to 16 hours (Full Competency Only)
- Recommended Group Size: 6 to 8 candidates



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5	Unit No: 1		Unit code:	
	Unit Title: Perform livestock husbandry activities			
	Elements of competency	Performance standards		
	1.1 Prepare tool, equipment and materials	1.1.1 Personal Protective Equipment (PPE) used in accordance with task requirement. 1.1.2 Tools and equipment collected and prepared as per task requirement. 1.1.3 Materials collected and prepared as per task requirement.		
	1.2 Perform identification of livestock breeds	1.2.1 Indigenous and exotic/cross breed animals identified based on their characteristics . 1.2.2 High yielding animal breed at the local situations/ambience identified. 1.2.3 Detailed breed records maintained as per farm practice.		
1.3 Manage livestock housing activities	1.3.1 Animal housing facilities and physical environment maintained as per livestock species. 1.3.2 Separate housing provided for animals requiring special care . 1.3.3 Waste management practices are applied in compliance with environmental and farm standard. 1.3.4 Cleaning and sanitation schedules are planned and supervised house cleanliness and sanitation. 1.3.5 Housing modifications or repairs are planned and coordinated based on condition assessments and seasonal needs. 1.3.6 Detailed housing activities recorded as per farm practice.			
1.4 Apply biosecurity measures	1.4.1 Biosecurity risks are identified through assessment of animals, housing conditions, and farm activities. 1.4.2 Farm-level biosecurity plans developed and implemented as per concerned authority. 1.4.3 Entry and exit protocols for people, vehicles, and animals established and monitored.			



		<p>1.4.4 Disinfections and sanitation measures are applied to housing, vehicle, tools, and equipment.</p> <p>1.4.5 New, sick, and returning animals from live market quarantined for recommended duration as per quarantine procedures.</p> <p>1.4.6 Rodent, pest and predators control measures implemented using environmentally safe and approved methods.</p> <p>1.4.7 Animal carcass and waste products disposed at designated areas.</p> <p>1.4.8 Records of biosecurity practices maintained and reported to concerned authorities.</p>
	1.5 Clean shed area	<p>1.5.1 Tools and equipment cleaned, disinfected and stored in designated place.</p> <p>1.5.2 Leftover from feeding area removed and placed in designated area.</p> <p>1.5.3 Shed area cleaned, disinfected, waste segregated and disposed as per 3R's principle at designated location.</p>
6	<p>Task Performance Requirements (Tools, Equipment and Materials):</p> <ul style="list-style-type: none"> Animal, restraining tools, sterilized cotton, spirit, tray, measuring cylinder, distilled water, scissors, scalpel, scalpel blade with handle, zip lock bag, povidine, paraffin, sterile swab, soap, disinfectants, bucket, pictorial chart of livestock breeds, mug, sprayer, lime powder, antiseptic solution, marker, bedding materials, thermometer, towel, examination gloves, pen, register, dust bin, dust pan, broom, first aid kit and personal protective equipment (PPE). 	
7	<p>Safety and Hygiene (Occupational Health and Safety):</p> <ul style="list-style-type: none"> Apply personal protective equipment. 	



- Safe handling of tools, equipment and materials.
- Protect from animal bites and zoonotic diseases.



8	Required Knowledge		
	Technical Knowledge	Applied Calculation	Graphical Information
	<ul style="list-style-type: none"> • Tools, equipment and materials <ul style="list-style-type: none"> ○ Types ○ Uses ○ Safe handling ○ Storage • Animal anatomy and physiology <ul style="list-style-type: none"> ○ General anatomy and physiology ○ Reproductive system ○ Digestive system ○ Physiological indicators of health, stress and productivity • Livestock breed <ul style="list-style-type: none"> ○ Classification of livestock species and breeds ○ Characteristics of indigenous and exotic/cross breeds ○ Methods of breeds identifications ○ Identification system (tagging, tattooing, ear notching, micro chipping) • Housing and environmental management <ul style="list-style-type: none"> ○ Design, construction and management of housing system ○ Types of housing system 		<ul style="list-style-type: none"> • Read and interpret manufacturer's instruction



	<ul style="list-style-type: none"> ○ Physical facility and physical environment ○ Sanitation, cleaning, pest control and waste management ● Biosecurity measures <ul style="list-style-type: none"> ○ Introduction ○ Importance of biosecurity ○ Diseases transmission pathways ○ Farm zoning and movement control ○ Disinfection and sanitation ○ Personal and visitor code of conducts ○ Quarantine and isolation procedures ○ Insect, rodent, and predators control methods ○ Water sanitation and waste management protocols ● Animal handling and restraining techniques ● Animal welfare, legal and ethical consideration ● Farm planning ● Recordkeeping and reporting ● Cleaning and waste management ● Occupational health and safety rules and regulations 		
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9	Assessment of Competency						
Unit: 1							
Unit Title: Perform livestock husbandry activities							
Candidate Details				Assessors Detail			
Candidate's Name:				Assessors' Name		ID/License No:	
Registration Number:				1.			
Symbol No:				2.			
Test Centre:				Test Date:			
Element of competency	Performance Standards			Standard Met	Standard Not Met	Evidence Type	Comments
1.1 Prepare tool, equipment and materials	1.1.1 Personal Protective Equipment (PPE) used in accordance with task requirement.						
	1.1.2 Tools and equipment collected and prepared as per task requirement.						
	1.1.3 Materials collected and prepared as per task requirement.						
1.2 Perform identification of livestock breeds	1.2.1 Indigenous and exotic/cross breed animals identified based on their characteristics .						
	1.2.2 High yielding animal breed at the local situations/ambience identified.						
	1.2.3 Detailed breed records maintained as per farm practice.						



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<p>1.3 Manage livestock housing activities</p>	<p>1.3.1 Animal housing facilities and physical environment maintained as per livestock species.</p> <p>1.3.2 Separate housing provided for animals requiring special care.</p> <p>1.3.3 Waste management practices are applied in compliance with environmental and farm standard.</p> <p>1.3.4 Cleaning and sanitation schedules are planned and supervised house cleanliness and sanitation.</p> <p>1.3.5 Housing modifications or repairs are planned and coordinated based on condition assessments and seasonal needs.</p> <p>1.3.6 Detailed housing activities recorded as per farm practice.</p>				
<p>1.4 Apply biosecurity measures</p>	<p>1.4.1 Biosecurity risks are identified through assessment of animals, housing conditions, and farm activities.</p> <p>1.4.2 Farm-level biosecurity plans developed and implemented as per concerned authority.</p> <p>1.4.3 Entry and exit protocols for people, vehicles, and animals established and monitored.</p> <p>1.4.4 Disinfections and sanitation measures are applied to housing, vehicle, tools, and equipment.</p> <p>1.4.5 New, sick, and returning animals from live market</p>				



	<p>quarantined for recommended duration as per quarantine procedures.</p> <p>1.4.6 Rodent, pest and predators control measures implemented using environmentally safe and approved methods.</p> <p>1.4.7 Animal carcass and waste products disposed at designated areas.</p> <p>1.4.8 Records of biosecurity practices maintained and reported to concerned authorities.</p>				
1.5 Clean shed area	<p>1.5.1 Tools and equipment cleaned, disinfected and stored in designated place.</p> <p>1.5.2 Leftover from feeding area removed and placed in designated area.</p> <p>1.5.3 Shed area cleaned, disinfected, waste segregated and disposed as per 3R's principle at designated location.</p>				

WT- Written Test

OQ- Oral Question

PT- Practical Test

DO – Direct Observation

SR- Supervisor’s report

SN–Simulation

RP- Role Play

PG –Photographs

VD- Video

CT – Certificates

TS – Testimonials (Reward)

PP – Product Produced

CS – Case Study



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Range Statement

Variable	Range
Personal protective equipment	<p><i>May include but not limited to:</i></p> <ul style="list-style-type: none"> • Mask • Apron • Gloves • Goggles • Head cover • Safety shoes • Face shield
Characteristics	<p><i>May include but not limited to:</i></p> <ul style="list-style-type: none"> • Body size • Horn • Color • Milk production trait
Animal housing facilities	<p><i>May include but not limited to:</i></p> <ul style="list-style-type: none"> • Floor space requirement • Types of housing • Watering arrangement • Accessibility • Drainage



Physical environment	<p><i>May include but not limited to:</i></p> <ul style="list-style-type: none"> • Light • Ventilation • Temperature • Relative humidity
Special care	<p><i>May include but not limited to:</i></p> <ul style="list-style-type: none"> • Pregnant • New born calves • Heifer • Sick • Lactating • Breeding bulls
Waste management practices	<p><i>May include but not limited to:</i></p> <ul style="list-style-type: none"> • Manure handling • Urine drainage • Bedding replacement
3R's principle	<p><i>May include but not limited to:</i></p> <ul style="list-style-type: none"> • Reduce • Reuse • Recycle



5	Unit No: 2		Unit code:	
	Unit Title: Perform livestock breeding activities			
	Elements of competency	Performance standards		
	2.1 Prepare tool, equipment and materials	2.1.1 Personal Protective Equipment (PPE) used in accordance with task requirement. 2.1.2 Tools and equipment collected and prepared as per task requirement. 2.1.3 Materials collected and prepared as per task requirement.		
	2.2 Select breeding animals	2.2.1 Animals of superior phenotypic characteristics identified based on specific breed. 2.2.2 Animals of high production potential selected for breeding as per breeding policy. 2.2.3 Breeding animals provided with balanced ration as specified. 2.2.4 Selected animals tagged for identification. 2.2.5 Breeding animal's record maintained as per farm practice.		
2.3 Facilitate natural breeding	2.3.1 Animals for natural breeding separated based on farmer choice and facility. 2.3.2 Breeding bull kept separately. 2.3.3 Natural service provided to the animals showing heat symptoms. 2.3.4 Natural breeding record maintained as per farm practice.			
2.4 Perform artificial insemination (AI) services	2.4.1 Time for insemination determined based on the farmer's reporting about the onset of heat symptoms. 2.4.2 History of natural service or artificial insemination taken. 2.4.3 Animal examined and estrus detected. 2.4.4 Semen thawed and loaded into sterile AI gun. 2.4.5 Artificial insemination performed under aseptic conditions applying appropriate technique.			



	2.4.6 AI service details maintained as per farm practice.
2.5 Perform pregnancy diagnosis and management	<p>2.5.1 History of natural service or artificial insemination taken.</p> <p>2.5.2 Tentative stage of gestation assessed based on history of natural service or artificial insemination.</p> <p>2.5.3 Pregnancy detected using palpation method.</p> <p>2.5.4 Farmer advised accordingly after detection of pregnancy status.</p> <p>2.5.5 Special care is provided to pregnant animals including nutrition, vaccination, and housing.</p> <p>2.5.6 Health and behavior of pregnant animals are monitored regularly.</p> <p>2.5.7 Pregnancy and health records maintained as per farm practice.</p>
2.6 Manage reproductive disorders	<p>2.6.1 History on reproductive disorder collected from farmer.</p> <p>2.6.2 Reproductive disorder assessed based on history and clinical examination.</p> <p>2.6.3 Technical service provided based on diagnosis of reproductive disorders.</p> <p>2.6.4 Follow up service provided till the reproductive disorders corrected.</p> <p>2.6.5 Reproductive disorders and treatment details maintained as per farm practice.</p>
2.7 Manage new born animals	<p>2.7.1 New born animal monitored for mucus cleanliness, navel cord cutting, and colostrum feeding.</p> <p>2.7.2 Physical environment and facility maintained as per types of new born animal.</p> <p>2.7.3 Additional care and nutrition provided to new-born animal as per requirement.</p> <p>2.7.4 Deworming, vaccinations, and preventive measures adopted as per schedule.</p> <p>2.7.5 Birth weight of newborn recorded and routinely monitored.</p>



	2.8 Clean shed area	<p>2.8.1 Tools and equipment cleaned, disinfected and stored in designated place.</p> <p>2.8.2 Leftover from feeding area removed and placed in designated area.</p> <p>2.8.3 Shed area cleaned, disinfected, waste segregated and disposed as per 3R's principle at designated location.</p>
6	<p>Task Performance Requirements (Tools, Equipment and Materials):</p> <ul style="list-style-type: none"> Animal, restraining tools, sterilized cotton, spirit, tray, scissors, soap, disinfectants, bucket, mug, sprayer, lime powder, antiseptic solution, marker, bedding materials, frozen semen straw, liquid nitrogen, liquid nitrogen container, semen referee, forceps, lubricants, plastic sheath, semen straw handling tool, AI gun, AI record card, examination gloves, tags, tagging machine, pen, register, dust bin, dust pan, broom, first aid kit and personal protective equipment (PPE) 	
7	<p>Safety and Hygiene (Occupational Health and Safety):</p> <ul style="list-style-type: none"> Apply personal protective equipment. Safe handling of tools, equipment and materials. Protect from animal vices and zoonotic diseases. 	



8	Required Knowledge		
	Technical Knowledge	Applied Calculation	Graphical Information
	<ul style="list-style-type: none"> • Tools, equipment and materials <ul style="list-style-type: none"> ○ Types ○ Uses ○ Safe handling ○ Storage • Animal reproduction <ul style="list-style-type: none"> ○ Reproductive anatomy of male and female ○ Semen straw handling and management ○ Estrous cycles and heat detection ○ Gestation period ○ Parturition process • Breeding animal selection and culling <ul style="list-style-type: none"> ○ Introduction of livestock genetics and breeding ○ Animal breeding policy and regulations ○ Animal breeds and their characteristics ○ Breeding objectives and strategies ○ Selection criteria for breeding male and female ○ Identification system (tagging, tattooing, ear notching, micro chipping) 		<ul style="list-style-type: none"> • Read and interpret manufacturer's instruction



- Crossbreeding and inbreeding
- Culling criteria and herd improvement
- Breeding methods
- Mating system
- Natural breeding
 - Introduction
 - Selection and management of breeding bull
 - Sign and symptoms of estrus
 - Risk factors and signs of unsuccessful copulation
- Artificial insemination
 - Introduction
 - AI equipment and tools
 - Semen straw selection and storage technique
 - Semen handling, thawing, and loading
 - Insemination techniques
- Pregnancy diagnosis and management
 - Anatomy and physiology of female reproductive system
 - Gestation period
 - Signs of pregnancy
 - Methods of pregnancy diagnosis
 - Care and management of pregnancy



	<ul style="list-style-type: none"> • Care and management of newborn animals <ul style="list-style-type: none"> ○ Importance of colostrum feeding ○ Physical environment and bedding ○ Navel cord cutting technique ○ Nutritional requirements ○ Artificial rearing of new born animals • Animal handling and restraining technique • Animal welfare, legal and ethical consideration • Shed cleaning and waste management • Recordkeeping and documentation • Occupational health and safety rules and regulations 		
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9	Assessment of Competency						
Unit: 2 Unit Title: Perform livestock breeding activities							
Candidate Details				Assessors Detail			
Candidate's Name:				Assessors' Name		ID/License No:	
Registration Number:				1.			
Symbol No:				2.			
Test Centre:				Test Date:			
Element of competency	Performance Standards			Standard Met	Standard Not Met	Evidence Type	Comments
2.1 Prepare tool, equipment and materials	2.1.1 Personal Protective Equipment (PPE) used in accordance with task requirement.						
	2.1.2 Tools and equipment collected and prepared as per task requirement.						
	2.1.3 Materials collected and prepared as per task requirement.						
2.2 Select breeding animals	2.2.1 Animals of superior phenotypic characteristics identified based on specific breed.						
	2.2.2 Animals of high production potential selected for breeding as per breeding policy.						
	2.2.3 Breeding animals provided with balanced ration as specified.						



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	<p>2.2.4 Selected animals tagged for identification.</p> <p>2.2.5 Breeding animal's record maintained as per farm practice.</p>				
2.3 Facilitate natural breeding	<p>2.3.1 Animals for natural breeding separated based on farmer choice and facility.</p> <p>2.3.2 Breeding bull kept separately.</p> <p>2.3.3 Natural service provided to the animals showing heat symptoms.</p> <p>2.3.4 Natural breeding record maintained as per farm practice.</p>				
2.4 Perform artificial insemination (AI) services	<p>2.4.1 Time for insemination determined based on the farmer's reporting about the onset of heat symptoms.</p> <p>2.4.2 History of natural service or artificial insemination taken.</p> <p>2.4.3 Animal examined and estrus detected.</p> <p>2.4.4 Semen thawed and loaded into sterile AI gun.</p> <p>2.4.5 Artificial insemination performed under aseptic conditions applying appropriate technique.</p> <p>2.4.6 AI service details maintained as per farm practice.</p>				
2.5 Perform pregnancy diagnosis and management	<p>2.5.1 History of natural service or artificial insemination taken.</p> <p>2.5.2 Tentative stage of gestation assessed based on history of natural service or artificial insemination.</p> <p>2.5.3 Pregnancy detected using palpation method.</p> <p>2.5.4 Farmer advised accordingly after detection of pregnancy</p>				



	<p>status.</p> <p>2.5.5 Special care is provided to pregnant animals including nutrition, vaccination, and housing.</p> <p>2.5.6 Health and behavior of pregnant animals are monitored regularly.</p> <p>2.5.7 Pregnancy and health records maintained as per farm practice.</p>				
2.6 Manage reproductive disorders	<p>2.6.1 History on reproductive disorder collected from farmer.</p> <p>2.6.2 Reproductive disorder assessed based on history and clinical examination.</p> <p>2.6.3 Technical service provided based on diagnosis of reproductive disorders.</p> <p>2.6.4 Follow up service provided till the reproductive disorders corrected.</p> <p>2.6.5 Reproductive disorders and treatment details maintained as per farm practice.</p>				
2.7 Manage new born animals	<p>2.7.1 New born animal monitored for mucus cleanliness, navel cord cutting, and colostrum feeding.</p> <p>2.7.2 Physical environment and facility maintained as per types of new born animal.</p> <p>2.7.3 Additional care and nutrition provided to new-born animal</p>				



	<p>as per requirement.</p> <p>2.7.4 Deworming, vaccinations, and preventive measures adopted as per schedule.</p> <p>2.7.5 Birth weight of newborn recorded and routinely monitored.</p>				
2.8 Clean shed area	<p>2.8.1 Tools and equipment cleaned, disinfected and stored in designated place.</p> <p>2.8.2 Leftover from feeding area removed and placed in designated area.</p> <p>2.8.3 Shed area cleaned, disinfected, waste segregated and disposed as per 3R's principle at designated location.</p>				

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Range Statement

Variable	Range
Personal protective equipment	<p><i>May include but not limited to:</i></p> <ul style="list-style-type: none"> • Mask • Apron • Gloves • Goggles • Head cover • Safety shoes • Face shield
Phenotypic characteristics	<p><i>May include but not limited to:</i></p> <ul style="list-style-type: none"> • Body size • Colour • Horn • Behaviour • Production traits
Balanced ration	<p><i>May include but not limited to:</i></p> <ul style="list-style-type: none"> • Energy • Protein • Minerals and vitamins



Reproductive disorder	<p><i>May include but not limited to:</i></p> <ul style="list-style-type: none"> • Repeat breeder • Abortion • Anestrus • Dystocia • Retained placenta • Prolapse
3R's principle	<p><i>May include but not limited to:</i></p> <ul style="list-style-type: none"> • Reduce • Reuse • Recycle



5	Unit No: 3		Unit code:		
	Unit Title: Manage livestock feed and pasture production practices				
	Elements of competency		Performance standards		
	3.1 Prepare tool, equipment and materials		3.1.1 Personal Protective Equipment (PPE) used in accordance with task requirement.		
			3.1.2 Tools and equipment collected and prepared as per task requirement.		
	3.2 Determine feed stuff/ingredients		3.1.3 Materials collected and prepared as per task requirement.		
3.2.1 Feed stuff assessed as per local availability.					
3.3 Develop and implement feeding chart		3.2.2 Local, improved grasses and fodder tree classified.			
		3.2.3 Types of roughages and concentrate ingredients categorized and stored.			
3.4 Prepare balanced ration/feed		3.3.1 Nutritional requirements of livestock identified based on animal species, age, weight, and physiological condition.			
		3.3.2 Feeding chart template prepared based on dry matter.			
3.5 Perform demonstration of forage/fodder		3.3.3 Feeding chart prepared covering all required information based on physiological and production requirements.			
		3.3.4 Nutrients components of feed stuff grossly assessed.			
3.5 Perform demonstration of forage/fodder		3.4.1 Feed ingredients of balanced ration enlisted and nutrients assessed.			
		3.4.2 Ratio of concentrate and roughage determined based on animal type and feeding objectives.			
3.5 Perform demonstration of forage/fodder		3.4.3 Feed ingredients are selected/collected based on their nutrient composition, availability, and cost-effectiveness.			
		3.4.4 Feed ingredients ground, evenly mixed and stored safely in designated area.			
3.5 Perform demonstration of forage/fodder		3.5.1 Field prepared using appropriate tillage methods based on forage/fodder and soil			



	cultivation practices	<p>conditions.</p> <p>3.5.2 Required amount of fertilizer and organic manures applied in prepared field.</p> <p>3.5.3 Quality seed, saplings/cuttings selected based on soil type, season, and livestock feeding needs.</p> <p>3.5.4 Seeds sown and saplings/cuttings planted following recommended spacing, depth, and planting technique.</p> <p>3.5.5 Irrigation applied based on crop stage and irrigation schedule.</p> <p>3.5.6 Harvesting carried out at appropriate growth stage and stored in designated area.</p>
	3.6 Manage pasture land	<p>3.6.1 Grass seed for pasture land identified based on soil condition, climate, and livestock needs.</p> <p>3.6.2 Seed sowing techniques demonstrated using appropriate methods.</p> <p>3.6.3 Poisonous plants and weeds removed from pasture land.</p> <p>3.6.4 Harvesting carried out at appropriate growth stage and stored in designated area.</p> <p>3.6.5 Rotational grazing adopted based on land condition and forage availability.</p>
	3.7 Prepare hay and silage	<p>3.7.1 Fodder/forage for hay and silage making harvested at an appropriate stage, time and season.</p> <p>3.7.2 Fodder/forage wilted to required moisture content appropriate for silage preparation.</p> <p>3.7.3 Fodder/forage for hay making dried, baled, and stored in a well-ventilated area.</p> <p>3.7.4 Fodder/forage for silage making ensiled in silo/pit after chopping in an air-tight condition.</p> <p>3.7.5 Quality of hay and silage monitored and assessed periodically.</p>



		3.7.6 Prepared hay and silage stored in designated area.
	3.8 Clean shed area	3.8.1 Tools and equipment cleaned, disinfected and stored in designated place. 3.8.2 Leftover from feeding area removed and placed in designated area. 3.8.3 Shed area cleaned, disinfected, waste segregated and disposed as per 3R's principle at designated location.
6	Task Performance Requirements (Tools, Equipment and Materials): <ul style="list-style-type: none"> Feed ingredients, feedstuff, feed supplements, nutrients, grass seeds, fodder saplings or cuttings, hay, silage, weighing scale, shovel, spade, spatula, sickle, hoe, rake, plough, fertilizer, manure, water can, sprayer, measuring tape, rope, bucket, gunny sack, mixing mat, scissors, knife, permanent marker, bucket, wheel barrow, chopping machine/chaff cutter, moisture meter, feed grinder, zip lock bag, register, pen, hand sanitizer, disinfectants, mug, clean cloth, dust bin, dust pan, broom, first aid kit and personal protective equipment (PPE). 	
7	Safety and Hygiene (Occupational Health and Safety): <ul style="list-style-type: none"> Apply personal protective equipment. Safe handling of tools, equipment and materials. Protect from animal vices and zoonotic diseases. 	



8	Required Knowledge		
	Technical Knowledge	Applied Calculation	Graphical Information
	<ul style="list-style-type: none"> • Tools, equipment and materials <ul style="list-style-type: none"> ○ Types ○ Uses ○ Safe handling ○ Storage • Animal nutrition <ul style="list-style-type: none"> ○ Introduction ○ Functions and classification of nutrients ○ Nutrient requirements based on species, age, weight, and production stage ○ Effects of nutrient deficiency • Feed stuff/ingredients <ul style="list-style-type: none"> ○ Classification of feed and feed ingredients ○ Local and commercial feed options and their nutritional value ○ Feed requirements based on species, age, weight, and production stage ○ Feed supplements and additives ○ Feed handling and storage 		<ul style="list-style-type: none"> • Read and interpret manufacturer's instruction



- Feeding management practices
 - Dry matter estimation
 - Feeding chart
 - Feed conversion ratio
 - Monitoring feed intake
- Balanced ration/feed
 - Introduction
 - Nutrient components
 - Preparation methods
- Fodder and forage cultivation
 - Fodder/forage crop types and varieties
 - Selection of fodder/forage crops
 - Land preparation and sowing/planting technique
 - Fertilizer rate and irrigation management
 - Harvesting technique
 - Storing and preservation methods
- Pasture land management
 - Site selection and field preparation
 - Seed rate and seed sowing methods
 - Fertilizer rate and irrigation management
 - Weed and poisonous plants



	<ul style="list-style-type: none"> ○ Rotational grazing ● Hay and silage preparation <ul style="list-style-type: none"> ○ Types of fodder/forage crops suitable for hay and silage ○ Optimal harvesting stage ○ Moisture content ○ Drying and wilting technique ○ Preservation principles ○ Hay making process ○ Silage-making methods ○ Silage additives ○ Storage ● Shed cleaning and waste management ● Recordkeeping and documentation ● Occupational health and safety rules and regulations 		
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9	Assessment of Competency						
Unit: 3							
Unit Title: Manage livestock feed and pasture production practices							
Candidate Details				Assessors Detail			
Candidate's Name:				Assessors' Name		ID/License No:	
Registration Number:				1.			
Symbol No:				2.			
Test Centre:				Test Date:			
Element of competency	Performance Standards			Standard Met	Standard Not Met	Evidence Type	Comments
3.1 Prepare tool, equipment and materials	3.1.1 Personal Protective Equipment (PPE) used in accordance with task requirement.						
	3.1.2 Tools and equipment collected and prepared as per task requirement.						
	3.1.3 Materials collected and prepared as per task requirement.						
3.2 Determine feed stuff/ingredients	3.2.1 Feed stuff assessed as per local availability.						
	3.2.2 Local, improved grasses and fodder tree classified.						
	3.2.3 Types of roughages and concentrate ingredients categorized and stored.						
3.3 Develop and implement feeding	3.3.1 Nutritional requirements of livestock identified based on						



chart	<p>animal species, age, weight, and physiological condition.</p> <p>3.3.2 Feeding chart template prepared based on dry matter.</p> <p>3.3.3 Feeding chart prepared covering all required information based on physiological and production requirements.</p> <p>3.3.4 Nutrients components of feed stuff grossly assessed.</p>				
3.4 Prepare balanced ration/feed	<p>3.4.1 Feed ingredients of balanced ration enlisted and nutrients assessed.</p> <p>3.4.2 Ratio of concentrate and roughage determined based on animal type and feeding objectives.</p> <p>3.4.3 Feed ingredients are selected/collected based on their nutrient composition, availability, and cost-effectiveness.</p> <p>3.4.4 Feed ingredients ground, evenly mixed and stored safely in designated area.</p>				
3.5 Perform demonstration of forage/fodder cultivation practices	<p>3.5.1 Field prepared using appropriate tillage methods based on forage/fodder and soil conditions.</p> <p>3.5.2 Required amount of fertilizer and organic manures applied in prepared field.</p> <p>3.5.3 Quality seed, saplings/cuttings selected based on soil type, season, and livestock feeding needs.</p> <p>3.5.4 Seeds sown and saplings/cuttings planted following recommended spacing, depth, and planting technique.</p>				



	<p>3.5.5 Irrigation applied based on crop stage and irrigation schedule.</p> <p>3.5.6 Harvesting carried out at appropriate growth stage and stored in designated area.</p>				
3.6 Manage pasture land	<p>3.6.1 Grass seed for pasture land identified based on soil condition, climate, and livestock needs.</p> <p>3.6.2 Seed sowing techniques demonstrated using appropriate methods.</p> <p>3.6.3 Poisonous plants and weeds removed from pasture land.</p> <p>3.6.4 Harvesting carried out at appropriate growth stage and stored in designated area.</p> <p>3.6.5 Rotational grazing adopted based on land condition and forage availability.</p>				
3.7 Prepare hay and silage	<p>3.7.1 Fodder/forage for hay and silage making harvested at an appropriate stage, time and season.</p> <p>3.7.2 Fodder/forage wilted to required moisture content appropriate for silage preparation.</p> <p>3.7.3 Fodder/forage for hay making dried, bailed, and stored in a well-ventilated area.</p> <p>3.7.4 Fodder/forage for silage making ensiled in silo/pit after chopping in an air-tight condition.</p>				



	3.7.5 Quality of hay and silage monitored and assessed periodically.				
	3.7.6 Prepared hay and silage stored in designated area.				
3.8 Clean shed area	3.8.1 Tools and equipment cleaned, disinfected and stored in designated place.				
	3.8.2 Leftover from feeding area removed and placed in designated area.				
	3.8.3 Shed area cleaned, disinfected, waste segregated and disposed as per 3R's principle at designated location.				

WT- Written Test

OQ- Oral Question

PT- Practical Test

DO – Direct Observation

SR- Supervisor’s report

SN–Simulation

RP- Role Play

PG –Photographs

VD- Video

CT – Certificates

TS – Testimonials (Reward)

PP – Product Produced

CS – Case Study



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Range Statement

Variable	Range
Personal protective equipment	<p><i>May include but not limited to:</i></p> <ul style="list-style-type: none"> • Mask • Apron • Gloves • Goggles • Head cover • Safety shoes • Face shield
Required information	<p><i>May include but not limited to:</i></p> <ul style="list-style-type: none"> • Feed types • Amount • Timing • Frequency
Nutrients	<p><i>May include but not limited to:</i></p> <ul style="list-style-type: none"> • Carbohydrates • Proteins • Lipids • Minerals • Vitamins • Water



<p>Quality</p>	<p><i>May include but not limited to:</i></p> <ul style="list-style-type: none"> • Hay <ul style="list-style-type: none"> ○ Color ○ Mould ○ Moisture ○ Leafy content • Silage <ul style="list-style-type: none"> ○ Color ○ Mould ○ Moisture ○ pH ○ Odour
<p>3R's principle</p>	<p><i>May include but not limited to:</i></p> <ul style="list-style-type: none"> • Reduce • Reuse • Recycle



5	Unit No: 4		Unit code:		
	Unit Title: Provide animal healthcare services				
	Elements of competency		Performance standards		
	4.1 Prepare tool, equipment and materials		4.1.1 Personal Protective Equipment (PPE) used in accordance with task requirement.		
			4.1.2 Tools and equipment collected and prepared as per task requirement.		
4.1.3 Materials collected and prepared as per task requirement.					
4.2 Collect, preserve and dispatch sample		4.2.1 Animal restrained safely with minimum harm using appropriate restraining method and tools.			
		4.2.2 Sample collected in a clean and sterilized container.			
		4.2.3 Container sealed and label placed in container.			
		4.2.4 Sample preserved using preservation technique and dispatched for laboratory examination.			
		4.2.5 Animal released after completion of procedure.			
4.3 Examine fecal samples		4.3.1 Fecal sample prepared using standard processing technique.			
		4.3.2 Processed fecal sample examined under microscope.			
		4.3.3 Helminth eggs and protozoa oocysts identified based on reference chart.			
		4.3.4 Report prepared, maintained and dispatched to concern stakeholder.			
4.4 Perform hematological examination		4.4.1 Blood samples examined for quality and processed for hematological examination.			
		4.4.2 Total white blood cells (WBC) and red blood cells (RBC) counted as per Hemocytometer method.			
		4.4.3 Packed cell volume (PCV) estimated as per Hematocrit method.			
		4.4.4 Hemoglobin estimated using as per Sahli's Hemoglobinometer method.			



		4.4.5 Thin blood smear prepared, fixed, and stained with Giemsa's technique for examination. 4.4.6 Differential WBC count performed under microscope using 100x magnification. 4.4.7 Report prepared and dispatched to stakeholder.
4.5	Perform california mastitis test (CMT) for mastitis	4.5.1 Milk sample collected into CMT paddle without spilling outside. 4.5.2 Equal volume of CMT reagent added and mixed well. 4.5.3 Mixed sample examined immediately for gel formation. 4.5.4 Report prepared and dispatched to stakeholders.
4.6	Perform skin scraping examination	4.6.1 Skin scraping sample processed using 10% potassium hydroxide (KOH) solution for examination. 4.6.2 Processed sample sediment examined under microscope using 10x magnification. 4.6.3 Presence of mites identified based on morphological features. 4.6.4 Report prepared and dispatched to stakeholders.
4.7	Administer prescribed drugs	4.7.1 Animal restrained safely without any harm. 4.7.2 Required amount of drugs taken as per prescription. 4.7.3 Drug administered according to prescribed routes . 4.7.4 Animals observed for any adverse effects or sign of discomfort. 4.7.5 Drugs record maintained as per farm practice.
4.8	Provide minor surgical services	4.8.1 Animal restrained safely without any harm. 4.8.2 Pre surgical preparation performed as per surgical procedure. 4.8.3 Simple minor surgery performed as per minor surgical technique. 4.8.4 Post operative care provided to animal.



		4.8.5 Surgical records maintained as per standard operating procedure.
	4.9 Vaccinate animals	4.9.1 Animal restrained safely without any harm. 4.9.2 Vaccination history collected and types of vaccine selected as prescribed. 4.9.3 Correct dosage of vaccine administered via recommended route. 4.9.4 Animals observed for any adverse effects or sign of discomfort. 4.9.5 Vaccination records maintained as per farm practice.
	4.10 Clean work area	4.10.1 Tools and equipment cleaned, disinfected and stored in designated place. 4.10.2 Unused materials collected and stored in designated area. 4.10.3 Work area cleaned, disinfected, waste segregated and disposed as per 3R's principle at designated location.
6	Task Performance Requirements (Tools, Equipment and Materials): <ul style="list-style-type: none"> Animal, casting rope, Burdizzo's castrator, bucket, weighing scale, emergency light, disbudding disc, petroleum jelly, grooming brush, sprayer/shower, formalin, sanitizer, hoof cutter, dehorner, dehorning wire, horn trimmer, caustic potash, dehorning rod, drenching gun, anthelmintic, acaricides, pesticides, insecticide thermometer, Haemoglobinometer, Hemocytometer, Hematocrit centrifuge, blood counting chamber, CMT sets, pipette, dropper, chemicals, KOH, animal lifting device, microscope, glass slides, cover slip, beaker, test tubes, centrifuge machine, sieve, scalpel, scalpel blade with handle, knife, lime, salt, cool box, soap, towel, sample container, zip lock bag, gauge cotton, nylon thread, examination gloves, scissors, forceps, povidine, syringe, vaccine, bandage, spirit, trevis, spade, pick axe, pen, register, clean cloth, dust bin, dust pan, broom, disinfectant, first aid kit and personal protective equipment (PPE) 	



7

Safety and Hygiene (Occupational Health and Safety):

- Apply personal protective equipment.
- Safe handling of tools, equipment and materials.
- Protect from animal bites and zoonotic diseases.



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8	Required Knowledge		
	Technical Knowledge	Applied Calculation	Graphical Information
	<ul style="list-style-type: none"> • Tools, equipment and materials <ul style="list-style-type: none"> ○ Types ○ Uses ○ Safe handling ○ Storage • Animal diseases <ul style="list-style-type: none"> ○ Introduction ○ Classification of diseases ○ Zoonotic and Transboundary Animal diseases (TADs) ○ Sign and symptoms of major livestock diseases • Healthcare <ul style="list-style-type: none"> ○ Animal handling and restraining techniques ○ Preventive and primary health care ○ Animal grooming ○ Deworming and drenching ○ Quarantine and isolation protocols ○ First aid treatment ○ Curative and emergency care • Sample collection and preservation 		<ul style="list-style-type: none"> • Read and interpret manufacturer's instruction



- Purpose of sample collection
- Types of samples
- Sample collection techniques
- Sample labelling and storing technique
- Sample handling and preservation methods
- Sample transport and dispatching technique
- Fecal examination
 - Purpose and importance
 - Types of endo parasites
 - Fecal examination techniques
 - Identification of egg, oocysts, larva, and segments
- Mastitis
 - Introduction
 - Clinical and sub clinical mastitis
 - Cause and risk factors of mastitis
 - Diagnostic methods
 - Preventive and corrective measures
 - Treatment
- Skin examination
 - Common skin diseases
 - Purpose and importance of skin examination



	<ul style="list-style-type: none"> ○ Skin scraping techniques ○ Skin scraping examination ● Hematological examination <ul style="list-style-type: none"> ○ Introduction of hematology ○ Normal hematological parameters ○ Hematological examination procedures ○ Lab report preparation ● Drugs <ul style="list-style-type: none"> ○ Introduction ○ Classification of drugs ○ Dose calculation ○ Route of drug administration ● Surgical services <ul style="list-style-type: none"> ○ Introduction ○ General anatomy and physiology ○ Minor surgical procedures ○ Surgical instruments and equipment ○ Local anesthesia and pain management ○ Post operative care and management ● Vaccination <ul style="list-style-type: none"> ○ Introduction 		
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	<ul style="list-style-type: none"> ○ Types of vaccines ○ Vaccination schedules ○ Reconstitution and administration techniques ○ Cold chain management ● Good Animal Husbandry Practices (GAHP) ● Good Veterinary Practices (GVP) ● Animal welfare, legal and ethical consideration ● Cleaning and waste management ● Record keeping and documentation ● Occupational health and safety rules and regulations 		
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9	Assessment of Competency						
Unit: 4 Unit Title: Provide animal healthcare services							
Candidate Details				Assessors Detail			
Candidate's Name:				Assessors' Name		ID/License No:	
Registration Number:				1.			
Symbol No:				2.			
Test Centre:				Test Date:			
Element of competency	Performance Standards			Standard Met	Standard Not Met	Evidence Type	Comments
4.1 Prepare tool, equipment and materials	4.1.1 Personal Protective Equipment (PPE) used in accordance with task requirement.						
	4.1.2 Tools and equipment collected and prepared as per task requirement.						
	4.1.3 Materials collected and prepared as per task requirement.						
4.2 Collect, preserve and dispatch sample	4.2.1 Animal restrained safely with minimum harm using appropriate restraining method and tools.						
	4.2.2 Sample collected in a clean and sterilized container.						
	4.2.3 Container sealed and label placed in container.						
	4.2.4 Sample preserved using preservation technique and dispatched for laboratory examination.						



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	4.2.5 Animal released after completion of procedure.				
4.3 Examine fecal samples	<p>4.3.1 Fecal sample prepared using standard processing technique.</p> <p>4.3.2 Processed fecal sample examined under microscope.</p> <p>4.3.3 Helminth eggs and protozoa oocysts identified based on reference chart.</p> <p>4.3.4 Report prepared, maintained and dispatched to concern stakeholder.</p>				
4.4 Perform hematological examination	<p>4.4.1 Blood samples examined for quality and processed for hematological examination.</p> <p>4.4.2 Total white blood cells (WBC) and red blood cells (RBC) counted as per Hemocytometer method.</p> <p>4.4.3 Packed cell volume (PCV) estimated as per Hematocrit method.</p> <p>4.4.4 Hemoglobin estimated using as per Sahli's Hemoglobinometer method.</p> <p>4.4.5 Thin blood smear prepared, fixed, and stained with Giemsa's technique for examination.</p> <p>4.4.6 Differential WBC count performed under microscope using 100x magnification.</p> <p>4.4.7 Report prepared and dispatched to stakeholder.</p>				



<p>4.5 Perform california mastitis test (CMT) for mastitis</p>	<p>4.5.1 Milk sample collected into CMT paddle without spilling outside.</p> <p>4.5.2 Equal volume of CMT reagent added and mixed well.</p> <p>4.5.3 Mixed sample examined immediately for gel formation.</p> <p>4.5.4 Report prepared and dispatched to stakeholders.</p>				
<p>4.6 Perform skin scraping examination</p>	<p>4.6.1 Skin scraping sample processed using 10% potassium hydroxide (KOH) solution for examination.</p> <p>4.6.2 Processed sample sediment examined under microscope using 10x magnification.</p> <p>4.6.3 Presence of mites identified based on morphological features.</p> <p>4.6.4 Report prepared and dispatched to stakeholders.</p>				
<p>4.7 Administer prescribed drugs</p>	<p>4.7.1 Animal restrained safely without any harm.</p> <p>4.7.2 Required amount of drugs taken as per prescription.</p> <p>4.7.3 Drug administered according to prescribed routes.</p> <p>4.7.4 Animals observed for any adverse effects or sign of discomfort.</p> <p>4.7.5 Drugs record maintained as per farm practice.</p>				
<p>4.8 Provide minor surgical services</p>	<p>4.8.1 Animal restrained safely without any harm.</p> <p>4.8.2 Pre surgical preparation performed as per surgical procedure.</p>				



	<p>4.8.3 Simple minor surgery performed as per minor surgical technique.</p> <p>4.8.4 Post operative care provided to animal.</p> <p>4.8.5 Surgical records maintained as per standard operating procedure.</p>				
4.9 Vaccinate animals	<p>4.9.1 Animal restrained safely without any harm.</p> <p>4.9.2 Vaccination history collected and types of vaccine selected as prescribed.</p> <p>4.9.3 Correct dosage of vaccine administered via recommended route.</p> <p>4.9.4 Animals observed for any adverse effects or sign of discomfort.</p> <p>4.9.5 Vaccination records maintained as per farm practice.</p>				
4.10 Clean work area	<p>4.10.1 Tools and equipment cleaned, disinfected and stored in designated place.</p> <p>4.10.2 Unused materials collected and stored in designated area.</p> <p>4.10.3 Work area cleaned, disinfected, waste segregated and disposed as per 3R's principle at designated location.</p>				

WT- Written Test

OQ- Oral Question

PT- Practical Test

DO – Direct Observation

SR- Supervisor’s report

SN–Simulation

RP- Role Play

PG –Photographs

VD- Video

CT – Certificates

TS – Testimonials (Reward)

PP – Product Produced



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Range Statement

Variable	Range
Personal protective equipment	<p><i>May include but not limited to:</i></p> <ul style="list-style-type: none"> • Mask • Apron • Gloves • Goggles • Head cover • Safety shoes • Face shield
Appropriate restraining method and tools	<p><i>May include but not limited to:</i></p> <ul style="list-style-type: none"> • Casting rope • Travis • Catcher • Nose ring
Sample	<p><i>May include but not limited to:</i></p> <ul style="list-style-type: none"> • Milk • Urine • Faeces • Blood, serum • Swab • Skin scrapping



Label	<p><i>May include but not limited to:</i></p> <ul style="list-style-type: none"> • Farm/owner name • Address • Animal identification • Collection and dispatch date • Sample type • Warning signs
Preservation technique	<p><i>May include but not limited to:</i></p> <ul style="list-style-type: none"> • Blood: Add anticoagulant/clot activator and store in cool condition • Urine: Store in sterile container and refrigerate • Fecal: Store in refrigerator or use preservatives (formalin) • Skin scarping: Store in sterile container and dry
Processing technique	<p><i>May include but not limited to:</i></p> <ul style="list-style-type: none"> • Grinding • Sieving • Sedimentation • Floatation
Helminth	<p><i>May include but not limited to:</i></p> <ul style="list-style-type: none"> • Nematode • Trematode • Cestode



Quality	<p><i>May include but not limited to:</i></p> <ul style="list-style-type: none"> • Quantity • Clott • Label
Routes	<p><i>May include but not limited to:</i></p> <ul style="list-style-type: none"> • Oral • Intramuscular • Subcutaneous
Pre surgical preparation	<p><i>May include but not limited to:</i></p> <ul style="list-style-type: none"> • Taking and monitoring vital signs • Clipping • Scrubbing • Administering drugs • Administering local anaesthesia
Simple minor surgery	<p><i>May include but not limited to:</i></p> <ul style="list-style-type: none"> • Hematoma • Cuts • Wound • Abscess • Castration • Simple fracture • Dehorning • Tail docking



3R's principle	<p><i>May include but not limited to:</i></p> <ul style="list-style-type: none">• Reduce• Reuse• Recycle
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5	Unit No: 5		Unit code:		
	Unit Title: Perform livestock research and extension related activities				
	Elements of competency		Performance standards		
	5.1 Prepare tools, equipment and materials		5.1.1	Personal protective equipment (PPE) used in accordance with task requirement.	
			5.1.2	Tools and equipment selected and collected as per task requirement.	
			5.1.3	Materials collected and prepared as per task requirement.	
	5.2 Prepare model questionnaires		5.2.1	Research objectives and target respondents are identified.	
5.2.2			Relevant questions prepared based on research objectives.		
5.2.3			Prepared questionnaire reviewed, revised and validated by experts.		
5.2.4			Copies of the questionnaire printed or digitalized for distribution.		
5.3 Conduct population and production survey		5.3.1	Survey locations and target groups identified based on research objectives.		
		5.3.2	Required permissions/consent obtained from concern authority.		
		5.3.3	Questionnaires distributed to stockholders.		
		5.3.4	Data collected through field visits and interactions with respondents.		
		5.3.5	Collected data compiled and submitted to researcher.		
5.4 Prepare extension materials		5.4.1	Topics selected based on needs of target group and innovative technology.		
		5.4.2	Extension materials prepared based on topics.		
		5.4.3	Materials are reviewed and validated by experts.		
		5.4.4	Extension materials printed or digitized for distribution.		
5.5 Organize extension program		5.5.1	Objectives of extension program set based on approved annual program.		
		5.5.2	Program schedule prepared and informed to target groups through appropriate media.		
		5.5.3	Extension program materials prepared and arranged in line with program objectives.		



		<p>5.5.4 Program conducted and information presented using various media/methods.</p> <p>5.5.5 Informational materials distributed to participants.</p> <p>5.5.6 Feedback received and program completion report prepared and submitted to concern authority.</p>
	5.6 Demonstrate innovative technology	<p>5.6.1 Topic for innovative technology identified.</p> <p>5.6.2 Tools, equipment, and learning materials prepared on identified topic.</p> <p>5.6.3 Innovative technology demonstrated using participatory and interactive methods.</p> <p>5.6.4 Feedback received on demonstration and revised based on feedback.</p> <p>5.6.5 Report prepared and submitted to concerned authority.</p>
	5.7 Clean working area	<p>5.7.1 Tools and equipment cleaned, disinfected and stored in designated place.</p> <p>5.7.2 Leftover from feeding area removed and placed in designated area.</p> <p>5.7.3 Shed area cleaned, disinfected, waste segregated and disposed as per 3R's principle in designated area.</p>
6	<p>Task Performance Requirements (Tools, Equipment and Materials):</p> <ul style="list-style-type: none"> Pen, paper, pencil, notebook, sharpener, eraser, chart paper, marker, flip chart, drawing sheet, computer with printer, presentation software, pen drive, meta card, stapler, staple, camera, multimedia projector, educational materials, register, innovative technology, technology related materials, and personal protective equipment (PPE) 	
7	<p>Safety and Hygiene (Occupational Health and Safety):</p> <ul style="list-style-type: none"> Apply personal protective equipment. 	



- Safe handling of tools, equipment and materials.
- Protect from animal bites and zoonotic diseases.



8	Required Knowledge		
	Technical Knowledge	Applied Calculation	Graphical Information
	<ul style="list-style-type: none"> • Tools, equipment and materials <ul style="list-style-type: none"> ○ Types ○ Uses ○ Safe handling ○ Storage • Livestock research <ul style="list-style-type: none"> ○ Introduction ○ Types of questionnaires ○ Data collection and tabulation ○ Descriptive statistical analysis ○ Reporting and presentation ○ Proposal writing techniques • Extension programs <ul style="list-style-type: none"> ○ Extension principles and practices ○ Role and importance of extension programs ○ Types of extension methods ○ Adult education and participatory approaches ○ Sociology and community engagement ○ Training methods 	<ul style="list-style-type: none"> • Calculate dry matter requirement 	<ul style="list-style-type: none"> • Read and interpret manufacturer's instruction • Read and interpret feeding chart



	<ul style="list-style-type: none"> • Organize extension programs <ul style="list-style-type: none"> ○ Need assessment ○ Program planning and resource allocation ○ Stakeholders' engagement ○ Program facilitation ○ Content delivery ○ Program evaluation ○ Development and use of information, education, and communication (IEC) materials • Innovative technology <ul style="list-style-type: none"> ○ Introduction and relevance ○ Current status and advancement ○ Impact on livestock farming ○ Merits and demerits • Record keeping and documentation • Occupational health and safety rules and regulations 		
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9	Assessment of Competency				
Unit: 5					
Unit Title: Perform livestock research and extension related activities					
Candidate Details			Assessors Detail		
Candidate's Name:			Assessors' Name		ID/License No:
Registration Number:			1.		
Symbol No:			2.		
Test Centre:			Test Date:		
Element of competency	Performance Standards	Standard Met	Standard Not Met	Evidence Type	Comments
5.1 Prepare tools, equipment and materials	5.1.1 Personal protective equipment (PPE) used in accordance with task requirement.				
	5.1.2 Tools and equipment selected and collected as per task requirement.				
	5.1.3 Materials collected and prepared as per task requirement.				
5.2 Prepare model questionnaires	5.2.1 Research objectives and target respondents are identified.				
	5.2.2 Relevant questions prepared based on research objectives.				
	5.2.3 Prepared questionnaire reviewed, revised and validated by experts.				
	5.2.4 Copies of the questionnaire printed or digitalized for				



	distribution.				
5.3 Conduct population and production survey	<p>5.3.1 Survey locations and target groups identified based on research objectives.</p> <p>5.3.2 Required permissions/consent obtained from concern authority.</p> <p>5.3.3 Questionnaires distributed to stockholders.</p> <p>5.3.4 Data collected through field visits and interactions with respondents.</p> <p>5.3.5 Collected data compiled and submitted to researcher.</p>				
5.4 Prepare extension materials	<p>5.4.1 Topics selected based on needs of target group and innovative technology.</p> <p>5.4.2 Extension materials prepared based on topics.</p> <p>5.4.3 Materials are reviewed and validated by experts.</p> <p>5.4.4 Extension materials printed or digitized for distribution.</p>				
5.5 Organize extension program	<p>5.5.1 Objectives of extension program set based on approved annual program.</p> <p>5.5.2 Program schedule prepared and informed to target groups through appropriate media.</p> <p>5.5.3 Extension program materials prepared and arranged in line with program objectives.</p> <p>5.5.4 Program conducted and information presented using</p>				



	<p>various media/methods.</p> <p>5.5.5 Informational materials distributed to participants.</p> <p>5.5.6 Feedback received and program completion report prepared and submitted to concern authority.</p>				
5.6 Demonstrate innovative technology	<p>5.6.1 Topic for innovative technology identified.</p> <p>5.6.2 Tools, equipment, and learning materials prepared on identified topic.</p> <p>5.6.3 Innovative technology demonstrated using participatory and interactive methods.</p> <p>5.6.4 Feedback received on demonstration and revised based on feedback.</p> <p>5.6.5 Report prepared and submitted to concerned authority.</p>				
5.7 Clean working area	<p>5.7.1 Tools and equipment cleaned, disinfected and stored in designated place.</p> <p>5.7.2 Leftover from feeding area removed and placed in designated area.</p> <p>5.7.3 Shed area cleaned, disinfected, waste segregated and disposed as per 3R's principle in designated area.</p>				

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Range Statement

Variable	Range
Personal protective equipment	<p><i>May include but not limited to:</i></p> <ul style="list-style-type: none"> • Mask • Apron • Gloves • Goggles • Head cover • Safety shoes • Face shield
Relevant questions	<p><i>May include but not limited to:</i></p> <ul style="list-style-type: none"> • Open ended • Closed ended
Various media/methods	<p><i>May include but not limited to:</i></p> <ul style="list-style-type: none"> • Group discussion • Sharing farmer experience • Role play
3R's principle	<p><i>May include but not limited to:</i></p> <ul style="list-style-type: none"> • Reduce • Reuse • Recycle



5	Unit No: 6 Unit Title: Facilitate livestock and livestock products marketing and financing activities	Unit code:
Elements of competency		Performance standards
6.1 Prepare tools, equipment and materials	6.1.1 Personal protective equipment (PPE) used in accordance with task requirement. 6.1.2 Tools and equipment selected and collected as per task requirement. 6.1.3 Materials collected and prepared as per task requirement.	
6.2 Conduct value chain related market survey	6.2.1 Market demand and supply assessed for livestock and livestock products. 6.2.2 Stakeholders in the value chain identified. 6.2.3 Pricing trends and marketing channels explored. 6.2.4 Production, processing and marketing costs of livestock and livestock products estimated. 6.2.5 Survey findings compiled and reported for further action.	
6.3 Facilitate firm registration and credit processing	6.3.1 Farmers/firm oriented on registration and credit processing. 6.3.2 Farmers/firm supported to prepare business plan and other documents for registration/credit processing and submitted to the relevant authority. 6.3.3 Follow-up conducted to track the approval process. 6.3.4 Approved loans and registration certificates obtained and documented.	
6.4 Facilitate livestock insurance activities	6.4.1 Farmers/firm oriented on livestock insurance. 6.4.2 Government policy terms and conditions are explained to livestock owners. 6.4.3 Farmers/firm supported to prepare required documents and submitted to relevant authority.	



	6.5 Promote livestock entrepreneurship	<p>6.5.1 Potential and viable livestock-based business opportunities identified based on market survey.</p> <p>6.5.2 Training and capacity-building programs organized for potential livestock farmers.</p> <p>6.5.3 Livestock farmer facilitated to prepare business plan.</p> <p>6.5.4 Livestock farmers facilitated to link with markets, suppliers, and financial institutions.</p> <p>6.5.5 Business success stories and best practices documented and shared with concerned authority.</p>
6	<p>Task Performance Requirements (Tools, Equipment and Materials):</p> <ul style="list-style-type: none"> • Computer, printer, paper, pen, pencil, eraser, sharpener, notebook, register, calculator, forms, formats, templates, legal, training materials, multimedia projector, and personal documents. 	
7	<p>Safety and Hygiene (Occupational Health and Safety):</p> <ul style="list-style-type: none"> • Apply personal protective equipment. • Safe handling of tools, equipment and materials. • Prevent from animal vices and zoonotic diseases. 	



8	Required Knowledge		
	Technical Knowledge	Applied Calculation	Graphical Information
	<ul style="list-style-type: none"> • Tools, equipment and materials <ul style="list-style-type: none"> ○ Types ○ Uses ○ Safe handling ○ Storage • Value chain market survey <ul style="list-style-type: none"> ○ Introduction of value chain ○ Value chain actors ○ Livestock market ○ Dairy product, production, and processing ○ Meat product, production, and processing ○ Value addition ○ Market place information • Firm registration and credit processing <ul style="list-style-type: none"> ○ Types of firm and firm registration process ○ Merit and demerits of loan and credit ○ Documentation process • Livestock insurance <ul style="list-style-type: none"> ○ Introduction, importance and benefits 		<ul style="list-style-type: none"> • Read and interpret manufacturer's instruction • Read and interpret vaccination chart



	<ul style="list-style-type: none"> ○ Insurance providers and policies ○ Coverage and risk covered ○ Government subsidy ○ Eligibility criteria and required document ○ Insurance and claim process ● Livestock entrepreneurship <ul style="list-style-type: none"> ○ Introduction ○ Business plan ○ Marketing concept ○ Business accounting ● Record keeping and documentation ● Occupational health and safety rules and regulations 		
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9	Assessment of Competency				
Unit: 6 Unit Title: Facilitate livestock and livestock products marketing and financing activities					
Candidate Details			Assessors Detail		
Candidate's Name:			Assessors' Name		ID/License No:
Registration Number:			1.		
Symbol No:			2.		
Test Centre:			3.		
Test Date:					
Element of competency	Performance Standards	Standard Met	Standard Not Met	Evidence Type	Comments
6.1 Prepare tools, equipment and materials	6.1.1 Personal protective equipment (PPE) used in accordance with task requirement.				
	6.1.2 Tools and equipment selected and collected as per task requirement.				
	6.1.3 Materials collected and prepared as per task requirement.				
6.2 Conduct value chain related market survey	6.2.1 Market demand and supply assessed for livestock and livestock products.				
	6.2.2 Stakeholders in the value chain identified.				
	6.2.3 Pricing trends and marketing channels explored.				
	6.2.4 Production, processing and marketing costs of livestock and livestock products estimated.				



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	6.2.5 Survey findings compiled and reported for further action.				
6.3 Facilitate firm registration and credit processing	<p>6.3.1 Farmers/firm oriented on registration and credit processing.</p> <p>6.3.2 Farmers/firm supported to prepare business plan and other documents for registration/credit processing and submitted to the relevant authority.</p> <p>6.3.3 Follow-up conducted to track the approval process.</p> <p>6.3.4 Approved loans and registration certificates obtained and documented.</p>				
6.4 Facilitate livestock insurance activities	<p>6.4.1 Farmers/firm oriented on livestock insurance.</p> <p>6.4.2 Government policy terms and conditions are explained to livestock owners.</p> <p>6.4.3 Farmers/firm supported to prepare required documents and submitted to relevant authority.</p>				
6.5 Promote livestock entrepreneurship	<p>6.5.1 Potential and viable livestock-based business opportunities identified based on market survey.</p> <p>6.5.2 Training and capacity-building programs organized for potential livestock farmers.</p> <p>6.5.3 Livestock farmer facilitated to prepare business plan.</p> <p>6.5.4 Livestock farmers facilitated to link with markets, suppliers, and financial institutions.</p>				



	6.5.5 Business success stories and best practices documented and shared with concerned authority.				
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Variable	Range
Personal protective equipment	<p><i>May include but not limited to:</i></p> <ul style="list-style-type: none"> • Mask • Apron • Gloves • Goggles • Head cover • Safety shoes • Face shield
Value chain	<p><i>May include but not limited to:</i></p> <ul style="list-style-type: none"> • Producers • Traders • Consumers

