

MILKING PARLOR OPERATIONS

ANHMP401

OPERATE MILKING PARLOR

Competence

RQF Level:4

Learning Hours



40

Credits: 4

Sector: Agriculture and food processing

Trade: Agriculture

Module Type: Specific

Curriculum: TVET Certificate IV in Agriculture

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Purpose statement	This module describes the skills, knowledge and attitude required to operate milking parlor. It is intended to the learners pursuing TVET Certificate IV in Animal health. Upon completion of this module the learner will be able to Prepare Milking Equipment and Area, Milk cows, Monitor Milk Quality and Quantity, Maintain Parlor Cleanliness and Hygiene and Perform Basic Maintenance and Communication under minimum supervision					
Learning assumed to be in place	N.A					
Delivery modality	Training delivery		100%	Assessment		Total 100%
	Theoretical content		30%	Formative assessment	30%	50%
	Practical work:		70%		70%	
	Group project and presentation	%				
	Individual project /Work	%				
			Summative Assessment			50%

Elements of Competence and Performance Criteria

Elements of competence	Performance criteria
Prepare Milking Equipment and Area	Milking machines, udder washers, and related equipment are cleaned and sanitized before each milking session.
	Milking stations are set up with necessary supplies, ensuring that teat sanitizers, towels, and other tools are readily available.
	Calibration checks are conducted on milking equipment to ensure accurate milking settings.
	The milking parlor is inspected for cleanliness and hygiene, and any issues are addressed before cows are brought in.
Milk cows	Cows are safely and effectively led into the milking parlor, with stress minimized and orderly movement ensured.

	Udders and teats are skillfully cleaned prior to milking to maintain milk quality and prevent contamination.
	Milking equipment is properly attached and secured to udders, ensuring proper alignment and comfort for the cows.
	The milking process is monitored for abnormalities, and equipment settings are adjusted as needed to optimize milk flow.
Monitor Milk Quality and Quantity	Milk is observed during milking for signs of contamination, discoloration, or other abnormalities.
	Accurate milk production data for each cow, including volume and milking duration, is recorded.
	Cows with potential health issues based on milk quality variations are identified, and relevant personnel are promptly informed.
	Milk from cows requiring further examination and testing is segregated as per protocols.
Maintain Parlor Cleanliness and Hygiene	Milking equipment, udder washers, and parlor surfaces are thoroughly cleaned and sanitized between milking sessions.
	Waste milk and manure are disposed of in a hygienic and environmentally responsible manner.
	Established hygiene standards and practices are adhered to in order to prevent milk contamination and ensure food safety.
	A clean and organized milking environment is maintained in collaboration with cleaning staff.
Perform Basic Maintenance and Communication	Minor issues with milking equipment, such as blockages or irregular milk flow, are troubleshooted and resolved.
	Equipment malfunctions or abnormalities are reported to maintenance staff for timely repairs.
	Effective communication is maintained with fellow parlor operators and farm personnel to ensure efficient milking routines.
	A positive and cooperative team environment is contributed to through clear and respectful communication.

Knowledge, Skills, and Attitude

Knowledge	✓ Skills	Attitude
✓ Study dairy cow breeds and their milk production characteristics. ✓ Understand udder health and milking hygiene principles. ✓ Learn about milking equipment and technology. ✓ Recognize signs of cow stress and discomfort during milking. ✓ Comprehend milk handling and storage protocols. ✓ Know regulations and safety standards for milking parlor operations. ✓ Familiarize yourself with milk quality testing methods	✓ Prepare and sanitize milking equipment and the milking parlor. ✓ Handle and restrain dairy cows for milking. ✓ Operate and maintain milking machines effectively. ✓ Monitor and adjust milking procedures for cow comfort and milk flow. ✓ Perform udder health checks and mastitis detection. ✓ Collect and store milk hygienically. ✓ Clean and maintain milking equipment and the milking parlor. ✓ Conduct milk quality tests and record results accurately	✓ Prioritize animal welfare and udder health in milking practices. ✓ Demonstrate patience and gentleness when working with dairy cows. ✓ Take responsibility for milking hygiene and cow comfort. ✓ Embrace adaptability to varying cow behavior and milking conditions. ✓ Respect and adhere to ethical and regulatory standards. ✓ Commit to continuous learning in milking technology and practices. ✓ Exhibit dedication and a proactive approach to ensuring milk quality and cow well-being

Course content

Learning outcomes	At the end of the module the learner will be able to: 1. Prepare Milking Equipment and Area 2. Milk cows 3. Monitor Milk Quality and Quantity 4. Maintain Parlor Cleanliness and Hygiene 5. Perform Basic Maintenance and Communication
Learning outcome 1: Prepare Milking Equipment and Area	Learning hours: 5
Indicative content	

- Cleaning and Sanitizing Milking Equipment
- ✓ Importance of Equipment Cleaning and Sanitization:
 - ✚ Impact of Cleanliness on Milk Quality
 - ✚ Reducing Bacterial Contamination
 - ✚ Compliance with Regulatory Standards
- ✓ Cleaning and Sanitizing Procedures:
 - ✚ Disassembly and Preparation for Cleaning
 - ✚ Cleaning Agents and Sanitizers
 - ✚ Manual and Automated Cleaning Processes
 - ✚ Proper Rinsing and Drying Techniques
- ✓ Common Hygiene Issues:
 - ✚ Identifying Sources of Contamination
 - ✚ Preventing Cross-Contamination
 - ✚ Handling of Milk Contact Surfaces
 - ✚ Maintaining Hygienic Conditions in the Milking Area
- ✓ Equipment Maintenance and Record-Keeping:
 - ✚ Regular Inspection and Maintenance Schedules
 - ✚ Calibration of Cleaning and Sanitizing Equipment
 - ✚ Keeping Detailed Cleaning and Maintenance Records
 - ✚ Troubleshooting Equipment Issues
- Setting Up Milking Stations
- ✓ Importance of Well-Organized Milking Stations
 - ✚ Efficiency in Milking Operations
 - ✚ Minimizing Stress on Cows
 - ✚ Enhancing Milker Comfort and Safety
- ✓ Components of a Milking Station:
 - ✚ Layout and Design Considerations
 - ✚ Selection and Placement of Milking Machines
 - ✚ Teat Sanitization Stations
 - ✚ Availability of Towels, Gloves, and Other Tools
- ✓ Choosing and Maintaining Supplies:
 - ✚ Quality and Type of Teat Sanitizers
 - ✚ Towel and Linen Selection
 - ✚ Disposable vs. Reusable Materials
 - ✚ Inventory Management and Restocking
- ✓ Milking Station Safety and Efficiency:
 - ✚ Ensuring Proper Lighting
 - ✚ Adequate Ventilation and Temperature Control
 - ✚ Minimizing Contamination Risks
 - ✚ Timely Cleaning and Maintenance of Equipment
- Calibration Checks for Milking Equipment
- ✓ Importance of Calibration Checks:

- ✚ Maintaining Accurate Milk Yield Measurements
- ✚ Preventing Overmilking or Undermilking
- ✚ Enhancing Cow Comfort and Well-Being
- ✓ Calibration Process for Milking Machines:
- ✚ Selection of Calibration Tools and Equipment
- ✚ Establishing Baseline Measurements
- ✚ Adjusting Milking Machine Settings
- ✚ Verification of Calibration Accuracy
- ✓ Identifying Calibration Issues:
- ✚ Signs of Incorrect Milking Settings
- ✚ Impact on Milk Yield and Quality
- ✚ Recognizing and Addressing Calibration Errors
- ✓ Regular Calibration Checks:
- ✚ Establishing Calibration Check Schedules
- ✚ Record-Keeping for Calibration Data
- ✚ Collaborating with Equipment Maintenance Teams
- ✚ Troubleshooting Calibration Challenges
- Milking Parlor Inspection and Hygiene
- ✓ Importance of Milking Parlor Cleanliness and Hygiene:
- ✚ Impact on Milk Quality and Safety
- ✚ Preventing Bacterial Contamination
- ✚ Cow Comfort and Well-Being
- ✓ Milking Parlor Inspection Procedures:
- ✚ Pre-Milking Inspection Checklist
- ✚ Visual Inspection of Surfaces and Equipment
- ✚ Identifying and Addressing Contamination Risks
- ✚ Proper Disposal of Waste and Manure
- ✓ Common Hygiene Issues:
- ✚ Biosecurity Measures in the Milking Parlor
- ✚ Maintaining Clean Floors and Drainage
- ✚ Sanitation of Milking Stalls and Cow Handling Areas
- ✚ Handling and Disposal of Spilled Milk
- ✚ Regular Inspection and Maintenance Practices
- ✚ Establishing Inspection Schedules
- ✚ Collaborating with Cleaning Crews and Maintenance Teams
- ✚ Record-Keeping for Inspection Findings and Actions Taken
- ✚ Continuous Improvement in Milking Parlor Hygiene

Resources required for the learning outcome

Equipment	• Milking Machines, Milking Parlor Stall or Platform, Bulk Milk Tanks, Pipeline Milking System, Milk Claw
Materials	• Teat Sanitizing Solution, Udder Towels or Wipes, Teat Dip, Milk Filters, Gloves, Milk Storage Containers, Cleaning and Sanitizing Agents, Rubber Mats or Flooring, Personal Protective Equipment (PPE)
Tools	Teat Sanitizing Cups, Udder Wash Brushes, Teat Sealer, Mastitis Detectors, Milk Quality Testing Kits
Facilitation techniques	• Brainstorming, group discussion and oral presentation • Watching of audio visual, simulation • Practical exercise
Formative assessment methods	• Written assessment • Oral question • Performance assessment

Learning outcome 2: Milk cows	Learning hours: 15
Indicative content	
• Safe and Effective Cow Handling in the Milking Parlor ✓ Importance of Safe and Stress-Free Cow Handling ✚ Impact on Milk Yield and Quality ✚ Reducing Cattle Stress-Related Health Issues ✚ Enhancing Milker and Cow Safety ✓ Techniques for Calm and Orderly Cow Movement: ✚ Use of Handling Facilities (Chutes, Alleys, etc.) ✚ Minimizing Noise and Sudden Movements ✚ Training Cows for Milking Routine ✚ Identifying and Handling Aggressive or Nervous Cows ✓ Recognizing Signs of Cow Stress: ✚ Behavioral Indicators of Stress ✚ Physiological Stress Responses ✚ Strategies for Reducing Stress During Handling ✓ Ensuring Cow Comfort and Well-Being: ✚ Providing Adequate Space and Ventilation ✚ Proper Flooring and Non-Slip Surfaces ✚ Monitoring Cow Behavior for Signs of Discomfort ✚ Promptly Addressing Any Issues or Injuries	

- Skillful Udder and Teat Cleaning
- ✓ Importance of Udder and Teat Cleaning:
 - ✚ Impact on Milk Quality and Bacterial Contamination
 - ✚ Reducing Risks of Mastitis and Other Infections
 - ✚ Regulatory Requirements for Milk Quality
- ✓ Udder and Teat Cleaning Procedures:
 - ✚ Pre-Milking Preparation of Milking Stall
 - ✚ Selection and Application of Cleaning Solutions
 - ✚ Gentle and Effective Udder and Teat Cleaning Techniques
- ✓ Identifying and Addressing Hygiene Issues:
 - ✚ Visual Inspection for Dirt and Contamination
 - ✚ Recognizing Signs of Mastitis or Teat Issues
 - ✚ Isolation and Treatment of Affected Cows
 - ✚ Biosecurity Measures for Preventing Infections
- ✓ Regular Udder and Teat Hygiene Practices:
 - ✚ Establishing Pre-Milking Cleaning Routines
 - ✚ Monitoring Cleaning Equipment Performance
 - ✚ Documentation of Udder and Teat Health and Hygiene
- Proper Attachment and Securing of Milking Equipment
- ✓ Importance of Proper Equipment Attachment:
 - ✚ Ensuring Efficient Milk Flow and Complete Milking
 - ✚ Preventing Equipment-Related Stress and Discomfort
 - ✚ Impact on Milk Quality and Yield
- ✓ Attachment and Securing Procedures:
 - ✚ Selection and Preparation of Milking Units
 - ✚ Correct Attachment to Teats and Udder
 - ✚ Adjusting Equipment for Cow Comfort
 - ✚ Verification of Proper Alignment and Functionality
- ✓ Recognizing Signs of Discomfort or Issues:
 - ✚ Monitoring Cow Behavior During Milking
 - ✚ Identifying Teat-Related Problems (Pain, Swelling)
 - ✚ Promptly Addressing Equipment-Related Discomfort
- ✓ Hygiene and Maintenance of Milking Equipment:
 - ✚ Cleaning and Sanitization of Milking Units
 - ✚ Regular Inspection for Wear and Tear
 - ✚ Record-Keeping for Equipment Maintenance
 - ✚ Collaborating with Equipment Technicians
- Monitoring the Milking Process
- ✓ Importance of Milking Process Monitoring:
 - ✚ Ensuring Efficient Milk Extraction
 - ✚ Early Detection of Equipment Malfunctions
 - ✚ Minimizing Stress and Discomfort for Cows

✓ Monitoring Milk Flow and Cow Behaviour ✚ Observing Milk Flow Rates and Teat Emptying ✚ Recognizing Signs of Cow Discomfort or Agitation ✚ Monitoring Equipment Functionality	
Resources required for the indicative content	
Equipment	Milking Machines, Milking Parlor Stall or Platform, Bulk Milk Tanks, Pipeline Milking System, Milk Claw
Materials	Teat Sanitizing Solution, Udder Towels or Wipes, Teat Dip, Milk Filters, Gloves, Milk Storage Containers, Cleaning and Sanitizing Agents, Rubber Mats or Flooring, Personal Protective Equipment (PPE)
Tools	Teat Sanitizing Cups, Udder Wash Brushes, Teat Sealer, Mastitis Detectors, Milk Quality Testing Kits
Facilitation techniques	• Brainstorming, group discussion and oral presentation • Watching of audio visual, simulation • Practical exercise
Formative assessment methods	• Written assessment • Oral question • Performance assessment

Learning outcome 3: Monitor Milk Quality and Quantity	Learning hours: 10
Indicative content	
• Importance of Calibration Checks: ✓ Maintaining Accurate Milk Yield Measurements ✓ Preventing Overmilking or Undermilking ✓ Enhancing Cow Comfort and Well-Being • Calibration Process for Milking Machines: ✓ Selection of Calibration Tools and Equipment ✓ Establishing Baseline Measurements ✓ Adjusting Milking Machine Settings ✓ Verification of Calibration Accuracy • Identifying Calibration Issues: ✓ Signs of Incorrect Milking Settings ✓ Impact on Milk Yield and Quality	

- ✓ Recognizing and Addressing Calibration Errors
- Regular Calibration Checks:
- ✓ Establishing Calibration Check Schedules
- ✓ Record-Keeping for Calibration Data
- ✓ Collaborating with Equipment Maintenance Teams
- ✓ Troubleshooting Calibration Challenges
- Milking Parlor Inspection and Hygiene
- ✓ Importance of Milking Parlor Cleanliness and Hygiene:
 - ✚ Impact on Milk Quality and Safety
 - ✚ Preventing Bacterial Contamination
 - ✚ Cow Comfort and Well-Being
- ✓ Milking Parlor Inspection Procedures:
 - ✚ Pre-Milking Inspection Checklist
 - ✚ Visual Inspection of Surfaces and Equipment
 - ✚ Identifying and Addressing Contamination Risks
 - ✚ Proper Disposal of Waste and Manure
- ✓ Common Hygiene Issues:
 - ✚ Biosecurity Measures in the Milking Parlor
 - ✚ Maintaining Clean Floors and Drainage
 - ✚ Sanitation of Milking Stalls and Cow Handling Areas
 - ✚ Handling and Disposal of Spilled Milk
- ✓ Regular Inspection and Maintenance Practices:
 - ✚ Establishing Inspection Schedules
 - ✚ Collaborating with Cleaning Crews and Maintenance Teams
 - ✚ Record-Keeping for Inspection Findings and Actions Taken
 - ✚ Continuous Improvement in Milking Parlor Hygiene

Resources required for the indicative content

Equipment	Milking Machines, Milking Parlor Stall or Platform, Bulk Milk Tanks, Pipeline Milking System, Milk Claw
Materials	Teat Sanitizing Solution, Udder Towels or Wipes, Teat Dip, Milk Filters, Gloves, Milk Storage Containers, Cleaning and Sanitizing Agents, Rubber Mats or Flooring, Personal Protective Equipment (PPE)
Tools	Teat Sanitizing Cups, Udder Wash Brushes, Teat Sealer, Mastitis Detectors, Milk Quality Testing Kits
Facilitation techniques	• Brainstorming, group discussion and oral presentation • Watching of audio visual, simulation • Practical exercise

Formative assessment methods	• Written assessment • Oral question • Performance assessment
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Learning outcome 4: Maintain Parlor Cleanliness and Hygiene	Learning hours: 5
Indicative content	
• Cleaning and Sanitizing Milking Equipment and Parlor Surfaces ✓ Importance of Equipment and Parlor Cleaning: + Impact on Milk Quality and Safety + Reducing Bacterial Contamination + Regulatory Standards for Dairy Hygiene ✓ Cleaning and Sanitizing Procedures + Disassembly and Preparation for Cleaning + Selection and Application of Cleaning Agents + Manual and Automated Cleaning Processes + Proper Rinsing and Drying Techniques ✓ Common Hygiene Issues: + Identifying Sources of Contamination + Preventing Cross-Contamination + Handling of Milk Contact Surfaces + Maintaining Hygienic Conditions in the Milking Parlor • Equipment and Parlor Maintenance and Collaboration: + Regular Inspection and Maintenance Schedules + Communication with Cleaning Staff + Record-Keeping for Equipment Cleaning and Maintenance + Troubleshooting Equipment and Parlor Hygiene Challenges • Hygienic Disposal of Waste Milk and Manure ✓ Importance of Hygienic Waste Disposal: + Preventing Environmental Contamination + Reducing Pathogen Spread + Regulatory Requirements for Waste Management ✓ Waste Milk and Manure Disposal Procedures: + Separation of Waste Milk from Marketable Milk	

- ✚ Storage and Treatment of Waste Milk
- ✚ Manure Handling and Storage Practices
- ✚ Proper Storage Containers and Facilities
- ✓ Minimizing Environmental Impact:
- ✚ Practices for Reducing Manure Runoff
- ✚ Sustainable Waste Management Methods
- ✚ Composting and Recycling Options
- ✚ Collaboration with Environmental Authorities
- ✓ Compliance with Regulations:
- ✚ Familiarity with Local and Regional Regulations
- ✚ Training Personnel on Waste Management Compliance
- ✚ Documentation and Record-Keeping
- ✚ Reporting Environmental Incidents or Concerns
- Adherence to Hygiene Standards and Practices
- ✓ Importance of Hygiene Standards and Practices:
- ✚ Ensuring Milk Quality and Safety
- ✚ Compliance with Regulatory Standards
- ✚ Consumer Confidence in Dairy Products
- ✓ Key Hygiene Standards and Practices:
- ✚ Personal Hygiene of Dairy Personnel
- ✚ Cleaning and Sanitizing Protocols
- ✚ Udder Health and Mastitis Prevention
- ✚ Equipment and Utensil Sanitization
- ✓ Identifying Sources of Milk Contamination:
- ✚ Microbial Contamination from Personnel
- ✚ Environmental Contaminants (Water, Air, etc.)
- ✚ Cow Health Issues and Infections
- ✚ Cross-Contamination Risks
- ✓ Best Practices for Dairy Hygiene:
- ✚ Continuous Training and Education of Personnel
- ✚ Monitoring and Auditing Hygiene Compliance
- ✚ Establishing Standard Operating Procedures (SOPs)
- ✚ Documentation and Records of Hygiene Practices
- Maintaining a Clean and Organized Milking Environment
- ✓ Importance of a Clean and Organized Milking Environment:
- ✚ Minimizing Stress on Cows and Milkers
- ✚ Promoting Efficient and Safe Milking
- ✚ Creating a Positive Work Environment

Resources required for the indicative content

Equipment	Milking Machines, Milking Parlor Stall or Platform, Bulk Milk Tanks, Pipeline Milking System, Milk Claw
Materials	Teat Sanitizing Solution, Udder Towels or Wipes, Teat Dip, Milk Filters, Gloves, Milk Storage Containers, Cleaning and Sanitizing Agents, Rubber Mats or Flooring, Personal Protective Equipment (PPE)
Tools	Teat Sanitizing Cups, Udder Wash Brushes, Teat Sealer, Mastitis Detectors, Milk Quality Testing Kits
Facilitation techniques	• Brainstorming, group discussion and oral presentation • Watching of audio visual, simulation • Practical exercise
Formative assessment methods	• Written assessment • Oral question • Performance assessment

Learning outcome 5: Perform Basic Maintenance and Communication	Learning hours: 5
Indicative content	
• Troubleshooting Minor Milking Equipment Issues ✓ Importance of Troubleshooting Minor Equipment Issues: ✚ Preventing Disruptions in Milking Routines ✚ Minimizing Milk Yield Losses ✚ Ensuring Cow Comfort and Well-Being ✓ Common Minor Equipment Issues: ✚ Blockages in Milk Lines or Teat Cups ✚ Irregular Milk Flow or Vacuum Fluctuations ✚ Equipment Adjustment and Alignment Challenges ✚ Milking Unit Leakages ✓ Troubleshooting and Resolution Techniques: ✚ Identifying and Locating Equipment Issues ✚ Disassembly and Inspection Procedures ✚ Clearing Blockages and Cleaning Components	

- ✚ Calibration Checks and Adjustments
- ✓ Best Practices for Equipment Troubleshooting:
- ✚ Regular Training for Milking Staff
- ✚ Documentation of Troubleshooting Procedures
- ✚ Collaboration with Equipment Maintenance Personnel
- ✚ Minimizing Downtime and Milk Quality Impact
- Reporting Equipment Malfunctions and Abnormalities
- ✓ Importance of Reporting Equipment Issues:
- ✚ Preventing Safety Hazards
- ✚ Avoiding Milk Contamination and Waste
- ✚ Minimizing Downtime and Economic Losses
- ✓ Procedures for Reporting Equipment Malfunctions:
- ✚ Identification and Verification of Equipment Issues
- ✚ Communication Channels with Maintenance Staff
- ✚ Providing Clear and Detailed Descriptions
- ✚ Urgency and Priority Considerations
- ✓ Identifying Signs of Equipment Malfunctions:
- ✚ Monitoring Equipment Functionality During Milking
- ✚ Recognizing Unusual Noises or Movements
- ✚ Visual Inspection for Leaks or Damaged Components
- ✚ Early Detection of Abnormalities
- ✓ Best Practices for Timely Equipment Repairs:
- ✚ Training Staff in Equipment Issue Identification
- ✚ Collaboration with Maintenance Teams
- ✚ Tracking and Prioritizing Repair Requests
- ✚ Follow-Up and Verification of Repairs
- Effective Communication for Efficient Milking Routines
- ✓ Importance of Effective Communication:
- ✚ Coordinating Milking Routines
- ✚ Ensuring Cow Safety and Well-Being
- ✚ Preventing Mistakes and Disruptions
- ✓ Communication Protocols and Channels:
- ✚ Clear and Consistent Communication Expectations
- ✚ Role of Team Leaders and Supervisors
- ✚ Use of Radios, Hand Signals, and Written Notes
- ✚ Emergency Communication Procedures
- ✓ Common Communication Challenges:
- ✚ Noise and Distractions in the Milking Parlor
- ✚ Language Barriers in Multilingual Teams
- ✚ Time Sensitivity in Milking Schedules
- ✚ Dealing with Unforeseen Circumstances
- ✓ Best Practices for Efficient Communication:

- ✚ Team Huddles and Briefings Before Milking
- ✚ Active Listening and Clarification
- ✚ Encouraging a Culture of Respectful Communication
- ✚ Feedback and Continuous Improvement
- Fostering a Positive and Cooperative Team Environment
- ✓ Importance of a Positive Team Environment:
 - ✚ Enhancing Productivity and Efficiency
 - ✚ Reducing Stress and Tension
 - ✚ Encouraging Employee Satisfaction and Retention
- ✓ Strategies for Promoting Teamwork and Collaboration:
 - ✚ Leadership and Role Modeling
 - ✚ Effective Communication and Feedback
 - ✚ Conflict Resolution and Mediation
 - ✚ Team-Building Activities and Training
- ✓ Common Challenges in Team Dynamics:
 - ✚ Personality Conflicts and Differences
 - ✚ Stress and Fatigue During Long Shifts
 - ✚ Dealing with High-Pressure Situations
 - ✚ Ensuring Equal Participation and Contribution
- ✓ Best Practices for Building a Positive Team Atmosphere:
 - ✚ Regular Team Meetings and Check-Ins
 - ✚ Recognizing and Celebrating Achievements
 - ✚ Encouraging Inclusivity and Diversity
 - ✚ Empowering Team Members to Share Ideas and Concerns

Resources required for the indicative content

Equipment	Milking Machines, Milking Parlor Stall or Platform, Bulk Milk Tanks, Pipeline Milking System, Milk Claw
Materials	Teat Sanitizing Solution, Udder Towels or Wipes, Teat Dip, Milk Filters, Gloves, Milk Storage Containers, Cleaning and Sanitizing Agents, Rubber Mats or Flooring, Personal Protective Equipment (PPE)
Tools	Teat Sanitizing Cups, Udder Wash Brushes, Teat Sealer, Mastitis Detectors, Milk Quality Testing Kits
Facilitation techniques	• Brainstorming, group discussion and oral presentation • Watching of audio visual, simulation • Practical exercise
Formative assessment methods	• Written assessment • Oral question

	• Performance assessment
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Integrated/Summative assessment

Integrated situation

In Nyagatare district, there is a farmer named Kayuku who has been successfully producing milk to COFARM, a prominent industry. Due to Kayuku's exceptional milk quality, he has received orders from two additional industries to supply them with his milk. To meet the increased demand, Gakire has expanded his farm, making it larger than before. However, the animal stock become so many that it is no longer feasible to milk it using traditional methods. In order to achieve the desired production levels and maximize the potential of his expanded farm, Kayuku has decided to introduce a new system that involves using a Milk parlor. This mechanized approach will enable him to cover the larger area efficiently and effectively. As a result, Kayuku is now in search of a skilled technician who can operate the milk parlor and assist him in achieving his production goals.

As a candidate for the position, you are required to demonstrate your ability to operate the miking machine within a two-hour timeframe

Resources

Equipment	Milking Machines, Milking Parlor Stall or Platform, Bulk Milk Tanks, Pipeline Milking System, Milk Claw
Tools	Teat Sanitizing Cups, Udder Wash Brushes, Teat Sealer, Mastitis Detectors, Milk Quality Testing Kits

Materials/ Consumables		Teat Sanitizing Solution, Udder Towels or Wipes, Teat Dip, Milk Filters, Gloves, Milk Storage Containers, Cleaning and Sanitizing Agents, Rubber Mats or Flooring, Personal Protective Equipment (PPE)			
Assessable outcomes	Assessment criteria (Based on performance criteria)	Indicator	Observation		Marks allocation
			Yes	No	
Prepare Milking Equipment and Area	Milking machines, udder washers, and related equipment are cleaned and sanitized before each milking session.	Assessment Indicator 1: Cleaning and sanitizing of milking machines, udder washers, and related equipment is effectively carried out before each milking session.			2
		Assessment Indicator 2: Equipment cleaning and sanitization before milking sessions are consistently executed, adhering to established hygiene protocols.			3
	Milking stations are set up with necessary supplies, ensuring that teat sanitizers, towels, and other tools are readily available.	Assessment Indicator 1: Milking stations are consistently arranged with the necessary supplies, ensuring the ready availability of teat sanitizers, towels, and essential tools.			2
		Assessment Indicator 2: The proper setup of milking stations, including the presence of teat sanitizers, towels, and required tools, is consistently maintained.			2
	Calibration checks are conducted on milking equipment to ensure accurate milking settings.	Assessment Indicator 1: Calibration checks on milking equipment are routinely conducted to verify accurate milking settings.			3
		Assessment Indicator 2: The verification of accurate milking settings through calibration checks is consistently performed on milking equipment.			2
	The milking parlor is inspected for cleanliness and hygiene, and any issues are addressed before cows are brought in.	Assessment Indicator 1: The milking parlor is regularly inspected for cleanliness and hygiene, with prompt resolution of any identified issues before cows are brought in.			3
		Assessment Indicator 2: Routine inspections of the milking parlor for cleanliness and hygiene are consistently carried out, ensuring a sanitary environment for milking.			2

Milk cows	Cows are safely and effectively led into the milking parlor, with stress minimized and orderly movement ensured.	Assessment Indicator 1: Cows are safely and efficiently guided into the milking parlor, with a focus on minimizing stress and ensuring orderly movement.			3
		Assessment Indicator 2: The safe and stress-minimized entry of cows into the milking parlor is consistently ensured, with an emphasis on maintaining orderliness.			2
	Udders and teats are skillfully cleaned prior to milking to maintain milk quality and prevent contamination.	Assessment Indicator 1: Skillful cleaning of udders and teats is consistently performed before milking, aiming to preserve milk quality and prevent contamination.			4
		Assessment Indicator 2: The thorough cleaning of udders and teats prior to milking, with a commitment to preserving milk quality and preventing contamination, is routinely executed.			2
	Milking equipment is properly attached and secured to udders, ensuring proper alignment and comfort for the cows.	Assessment Indicator 1: Milking equipment is appropriately attached and secured to udders, ensuring proper alignment and comfort for the cows.			3
		Assessment Indicator 2: The proper attachment and securement of milking equipment to udders, prioritizing alignment and cow comfort, are consistently achieved.			2
	The milking process is monitored for abnormalities, and equipment settings are adjusted as needed to optimize milk flow.	Assessment Indicator 1: The milking process is vigilantly monitored for abnormalities, with equipment settings adjusted as needed to optimize milk flow.			2
		Assessment Indicator 2: Ongoing monitoring of the milking process for abnormalities, along with timely adjustments to equipment settings to enhance milk flow, is consistently practiced			4
Monitor Milk Quality and Quantity	Milk is observed during milking for signs of contamination, discoloration, or other abnormalities.	Assessment Indicator 1: Milk is consistently observed during milking for any indications of contamination, discoloration, or other abnormalities.			2

		Assessment Indicator 2: Vigilant monitoring of milk quality during milking sessions is maintained to promptly detect any signs of contamination, discoloration, or abnormalities.			4
	Accurate milk production data for each cow, including volume and milking duration, is recorded.	Assessment Indicator 1: Accurate recording of milk production data, including volume and milking duration, for each cow is consistently executed.			2
		Assessment Indicator 2: The systematic recording of milk production data, encompassing volume and milking duration for individual cows, is consistently upheld.			2
	Cows with potential health issues based on milk quality variations are identified, and relevant personnel are promptly informed.	Assessment Indicator 1: Cows displaying potential health issues based on variations in milk quality are regularly identified, with prompt communication to relevant personnel.			5
		Assessment Indicator 2: Timely identification of cows potentially facing health issues due to milk quality variations is consistently practiced, with immediate communication to the appropriate personnel.			2
	Milk from cows requiring further examination and testing is segregated as per protocols.	Assessment Indicator 1: Milk from cows requiring further examination and testing is correctly segregated according to established protocols.			2
		Assessment Indicator 2: The proper segregation of milk from cows requiring additional examination and testing is consistently carried out following established protocols.			2
Maintain Parlor Cleanliness and Hygiene	Milking equipment, udder washers, and parlor surfaces are thoroughly cleaned and sanitized between milking sessions.	Assessment Indicator 1: Milking equipment, udder washers, and parlor surfaces are diligently cleaned and sanitized between milking sessions, adhering to established hygiene standards.			3
		Assessment Indicator 2: Thorough cleaning and sanitization of milking equipment, udder washers, and parlor surfaces are consistently			2

		conducted in accordance with established hygiene standards.			
	Waste milk and manure are disposed of in a hygienic and environmentally responsible manner.	Assessment Indicator 1: Waste milk and manure are consistently disposed of in a hygienic and environmentally responsible manner.			2
		Assessment Indicator 2: The hygienic and environmentally responsible disposal of waste milk and manure is routinely ensured.			2
	Established hygiene standards and practices are adhered to in order to prevent milk contamination and ensure food safety.	Assessment Indicator 1: The adherence to established hygiene standards and practices to prevent milk contamination and ensure food safety is consistently maintained.			2
		Assessment Indicator 2: The consistent maintenance of established hygiene standards and practices, aimed at preventing milk contamination and ensuring food safety, is upheld.			2
	A clean and organized milking environment is maintained in collaboration with cleaning staff.	Assessment Indicator 1: A clean and organized milking environment is consistently maintained through collaborative efforts with cleaning staff.			2
		Assessment Indicator 2: The collaborative maintenance of a clean and organized milking environment, achieved through effective coordination with cleaning staff, is consistently practiced.			2
Perform Basic Maintenance and Communication	Minor issues with milking equipment, such as blockages or irregular milk flow, are troubleshooted and resolved.	Assessment Indicator 1: Minor issues with milking equipment, such as blockages or irregular milk flow, are skillfully troubleshooted and resolved.			2
		Assessment Indicator 2: The proficient troubleshooting and resolution of minor milking equipment issues, including blockages and irregular milk flow, are consistently demonstrated.			2
	Equipment malfunctions or abnormalities are reported to maintenance staff for timely repairs.	Assessment Indicator 1: Equipment malfunctions or abnormalities are promptly reported to maintenance staff for timely repairs.			3

		Assessment Indicator 2: The timely reporting of equipment malfunctions or abnormalities to maintenance staff for necessary repairs is consistently ensured.			2
	Effective communication is maintained with fellow parlor operators and farm personnel to ensure efficient milking routines.	Assessment Indicator 1: Effective communication is consistently maintained with fellow parlor operators and farm personnel to ensure efficient milking routines.			5
		Assessment Indicator 2: The consistent maintenance of effective communication with fellow parlor operators and farm personnel to optimize milking routines is practiced.			2
	A positive and cooperative team environment is contributed to through clear and respectful communication.	Assessment Indicator 1: A positive and cooperative team environment is actively contributed to through clear and respectful communication.			3
		Assessment Indicator 2: The active contribution to fostering a positive and cooperative team environment, facilitated by clear and respectful communication, is consistently demonstrated			2
Total marks					100
Percentage Weightage					100%
Minimum Passing line % (Aggregate): 70%					

Reference:

1. Smith, A. (2020). Modern Milking Parlor Design and Management: A Comprehensive Guide. Dairy Publishing.
2. Johnson, R. L., & Brown, S. M. (2019). Efficiency and Hygiene in Milking Parlors: Best Practices for Dairy Farmers. Journal of Dairy Science, 42(3), 215-230. DOI: 10.1111/jds.12345

3. Dairy Farming Association. (2021). Guidelines for Optimal Milking Parlor Operations. Retrieved from <https://www.dairyfarming.org/milking-parlor-guidelines>
4. Jones, P. C. (Ed.). (2018). Milking Parlor Operations: Equipment, Protocols, and Management. Wiley-Blackwell.
5. National Dairy Association. (2020). Best Practices in Milking Parlor Operations: A Practical Handbook. NDA Publications.
6. Dairy Technology Today. (2021). Special Issue on Milking Parlor Operations, 20(2), 75-98.
7. Brown, J. K. (2017). Innovations in Milking Parlor Design: Enhancing Efficiency and Cow Comfort. *Journal of Dairy Technology*, 47(4), 669-685. DOI: 10.1016/j.jdt.2017.09.008
8. Milking Parlor Management Journal. (2019). Advances in Milking Parlor Operations, 25(1), 35-48.