DAIRY FARM SUPERVISOR

CBT Curriculum

National Vocational Certificate Level 4

Version 1 - November 2015

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1 Introduction

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The course is aimed to focus and build the capacity of Livestock (Dairy Farm Supervisor) of Level 4 through imparting the best livestock management practices including animal feeding, breeding, health care and marketing, etc. It deals with the transfer of current conventional curricula into CBT based curricula, the development of training program based on CBT principles.

The overall objective of the course is to enable the learner to gain competencies related to enhancing livestock productivity through understanding the basic and overall perception of veterinary, livestock management, improved feeding and breeding practices using modern techniques, in time and proper vaccination, deworming and spraying to control the ecto and endo parasites. The CBT is focused to enhance the capacity of livestock supervisor to fetch maximum returns. The manpower once trained will have more opportunities of employment both in Public and Private Sector. This course will also enable him for self-employment and to earn overseas employment opportunities as well.

1.1 Overall objective of course

The course is developed on the philosophy of competency-based training which enables a trainee to acquire competencies required to perform his/her job efficiently. Course has the following objectives

- Transfer the current conventional curricula into CBT & A based curricula.
- Skill and competent employment opportunities at local and overseas level so to support the economy
- Fill the gap of skilled workers to meet the demand of the sectors locally and internationally

1.2 Competencies gained after completion of course

On successful completion of this course the trainee will attain following competencies:

- Supervise Feeding Management
- Supervise Breeding as per farm requirement

- Supervise Livestock Health
- Maintain Livestock & Farm Records
- Supervise Farm Assets
- Manage Livestock Marketing
- Supervise Milking

1.3 Job opportunities available immediately and in the future

After completion of this course trainee can work as:

- Livestock Entrepreneur
- Livestock Assistant
- Livestock Supervisor
- Livestock Manager (in future)

1.4 Trainee entry level

- Entry into this course based on this qualification may require skills and knowledge preferably equivalent to matriculation for trainee from formal education system
- Entry to assessment / training for NVQF 3 Livestock is open for trainee coming from non-formal education system

1.5 Minimum qualification of trainer

- Doctor of Veterinary Medicine/B.Sc. (Hons) Animal Husbandry
- Must have the experience of teaching in a CBT environment
- Minimum 3-5 years of relevant industry experience

1.6 Mode of Delivery in a competency-based environment

Training in a competency-based environment differs from the traditional method of training delivery. It is based on defined competency standards, which are industry oriented.

The traditional role of a trainer changes& shifts towards facilitation of training. A facilitator in Competency Based Training (CBT) encourages and assists trainees to learn for themselves. Trainees are likely to work in groups (pairs) and are engaged in different activities. Few are conducting practical tasks in the workshop, while others are writing, & some are not even in the classroom or workshop but in another part of the building using specialized equipment, working on computers doing research on the Internet or in the library. As trainees learn at different pace, they might well be at different stages in their learning, thus learning must be tailored to suit individual needs.

The following facilitation methods (teaching strategies) are generally employed in CBT programs:

- **Direct Instruction Method:** This might be effective when introducing a new topic to a larger group of trainees in a relative short amount of time. In most cases this method relies on one-way communication, hence there are limited opportunities to get feedback on the trainee's Learn.

- **Discussion Method:** This allows trainees to actively participate in sharing knowledge and ideas. It will help the trainer to determine whether trainees understand the content of the topic. On the other hand, there is a possibility of straying off topic under discussion and some trainees dominating others on their views.

- **Small Group Method:** Pairing trainees to help and learn from each other often results in quick knowledge/skill transfer, than with the whole class. The physical arrangement of the classroom/workshop and individual assessment may be challenging also, hence using analogy method is recommended.

- **Problem Solving Method:** This is a very popular teaching strategy for Competency Based Training (CBT). Trainees are challenged and are usually highly motivated when they gain new knowledge and skills by solving problems (Contingency skills). Trainees develop critical thinking skills and the ability to adapt to new learning situations (Transfer skills). It might be time consuming and because trainees sometimes work individually, they may not learn all the things that they are expected to learn.

- **Research Method:** This is used for workshops and laboratory tasks, field experiments, and case studies. It encourages trainees to investigate and find answers for themselves and to critically evaluate information. It however requires a lot of time and careful planning of research projects for the trainee.

1.7 Medium of instruction

Urdu, English, Local language

1.8 Qualification Level

Level IV Qualification

1.9 Duration of Qualification

One year

1.10 Sequence of the modules

The curriculum consists of seven (7) modules and should be delivered in the following sequence, however the individual learning units within the same module may be delivered interchangeably as stand-alone modules (if need be) or in a holistic approach.

• **Module 1:** Supervise Feeding Management
• **Module 2:** Supervise Livestock Health
• **Module 3:** Supervise Breeding
• **Module 4:** Supervise Milking
• **Module 5:** Supervise Farm Assets Management
• **Module 6:** Manage Livestock Marketing
• **Module 7:** Maintain Livestock & Farm Record

1.11 Timeframe of assessment (recommendation)

- Assessments should be scheduled during modules and at the completion of modules, depending on the exercises assigned
- Informal critiques which do not entail grading should be conducted frequently so that students can learn from each others' mistakes.

2 Overview about the program – Curriculum for Livestock (Dairy Farm Supervisor)

Module Title and Aim	Learning Units	Theory Hrs.	Workplace Hrs.	Timeframe of modules
• **Module 1:** Supervise Feeding Management	**LU1-** Grow Fodder to meet animal feed requirement **LU2-** Purchase Fodder to supplement animal feed requirement **LU3- Supervise Grazing to meet stock carrying capacity** **LU4- Preserve Fodder (Silage + Hay)** **LU5- Prepare Feed and supplements as per required Formulation**, **LU6- Ensure Free access of clean and fresh water**	44	270	314
• **Module 2:** Manage livestock Health	**LU1-**Control Ecto and Endo Parasites **LU2-**Vaccinate the Animals **LU3-**Treat Sick Animals **LU4- Maintain Bio Security** **LU5-**Disease Monitoring and Surveillance **LU6- Monitor Disease and Surveillance on farm** LU7-Supervise Mastitis	46	270	316

• **Module 3:** Supervise Breeding	**LU1- Supervise Heat Detection** **LU2- Supervise Insemination** **LU3-** Diagnose Pregnancy **LU4-** Supervise Parturition **LU5-** Supervise New-born Care **LU6-** Assist in implementation of breeding plan	104	270	374
• **Module 4:** Supervise Milking	**LU1- Supervise Milking Management** **LU2- Supervise Milk Hygiene**	13	70	83
• **Module 5:Supervise Farm Assets**	**LU1- Supervise Farm Labour** **LU2 – Maintain Farm Machinery** **LU3- Provide Suitable Housing**	71	150	221
• **Module 6:** Manage Livestock Marketing	**LU1- Perform sale, purchase and culling of animals according to the farm requirement** **LU2- Sale of Farm Produce** **LU3- Purchase of semen doses**	32	90	122

• **Module 7:** Maintain Livestock and Farm record	**LU1- Maintain Farm and Feeding Record** **LU2-** **LU3-** Maintain Production Record **LU 4-** Maintain Breeding record **LU5-** Maintain Treatment Record **LU6-**Maintain Farm Assets Record	33	120	153
TOTAL		343	1240	1583

3. Teaching and Learning Guide- Livestock

3.1 Module 1:Supervise Feeding Management

Overview of the Module: This Module provide the trainee the necessary skills and knowledge to be able to supervise feeding management . Trainee will be expected to Grow Fodder according to farm requirement, Purchase Fodder according to farm requirement, Manage Grazing, as per requirement/ availability, Preserve Fodder, Prepare Feed as per Provided Formulation, Ensure Feed availability as per animals' need Ensure Free access of clean and fresh water. After completing this module trainee will gain the necessary knowledge to supervise feeding management required for his/her level of training (level III)

Duration: 314 hours **Theory:** 44hours **Practice:** 270hours

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU1- Grow Fodder to meet animal feed requirement	• Arrange tools/implements and labor for preparation of land • Supervise land preparation as per fodder crop requirement • Ensure availability of inputs for fodder crops sowing • Supervise timely sowing	• Types and usage of tools/implements • Fodder crop requirements for land preparation • Fodder crop inputs required for sowing • Seasonal variations of fodder sowing in different regions • Integrated Pest Management for farm's fodder crops	Theory hrs: 4 Practical hrs: 50 hrs Total: 54 hrs.	**Non-Consumables:** Tractors, Trolleys, Plough (hall) Blade, Rotavator, Fodder Cutter (Toka Machine), Spray machines, Disc Fodder Cutter, Sickle, Wheel Barrows, Shovels, Spray masks,	Classroom and Dairy Farm

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
	of fodder crops to ensure availability of fodder for the animals throughout the year • Ensure protection of fodder crops through Integrated pest management (IPM) • Ensure timely harvesting of fodder crops	• The appropriate stage of harvesting and its nutritive values for range of fodder crops		**Consumables:** Seeds, Fertilizers, Pesticides, Insecticides, Barred wires	
LU2- Purchase Fodder to supplement animal feed requirement	• Identify the cost effective quality fodder • Identify the nearest fodder market • **Estimate** required fodder quantity • Arrange cost effective means for fodder	• Production costs of different fodders • Information of fodder markets in the area • Calibration of weighing scale • Different modes of fodder transportation • Common malpractices in	Theory hrs: 02 hrs. Practical hrs: 49 hrs Total : 51 hrs.	**Non-Consumables:** **Consumables:**	Classroom and Dairy Farm

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
	transportation • Negotiate with fodders sellers and transporters for cost effective procurement	weighing and cost effective procurement for purchasing and transportation			
LU3- Supervise Grazing to meet stock carrying capacity	***Trainee will* be able to:** • Arrange grazing land to feed animals as per carrying capacity • Follow grazing patterns as per stock requirement • **Demonstrate/Follow safety measure during grazing** • **Supervise farm *labour as per assigned duties*** •	• Stocking rate and carrying capacity of land • Variations in grazing seasons • Distribution of grazing across landscape • Match kinds & classes of animals according to range land • Methods of monitoring degrees of use grazing fields • Types of rodents, endo/ecto-parasites,	Theory hrs: 8 hrs. Practical hrs: 49 hrs Total : 57 hrs.	**Non-Consumables:** Electrical fence wire, first aid box, wooden stick **Consumables:**	Classroom and Dairy Farm

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
		predators, poisonous plants			
LU4- Preserve Fodder (Silage + Hay)	• Preserve silage for livestock as per requirement • Preserve hay for livestock as per requirement • Ensure quality of hay and silage	• *Usage of hay and silage* • Methods and protocols of silage and hay preparation • Nutritive values of different fodder crops • Silage requirement according to animal status	Theory hrs: 04 Practical hrs: 60 Total : 64 hrs.	Fodder cutter/mover, harvester, fodder chopper, baler, liner, teder, wrapper	Classroom and Dairy Farm
LU5- Prepare Feed and supplements as per required Formulation	• Arrange feed ingredients according to formulation • **Ensure quality of ingredients** • **Ensure the correct use of machinery for mixing & grinding of feed** • **Ensure feed availability according**	• Quality indicators of ingredients ✓ Physically damaged ✓ Fungus ✓ Pests attacked ✓ Over moisturized ✓ Hygienic conditions ✓ Adulteration • Mixing/grinding machines • Procedure of mixing/grinding of ingredients • Storage standards	Theory hrs: 24 Practical hrs: 60 Total : 84 hrs		Classroom and Dairy Farm

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
	to psychological stage of animals • Ensure the safe storage of raw material as well as concentrate feed •				
LU 6. Ensure Free access of clean and fresh water	• Ensure water troughs are accessible to all stock throughout farm • Supervise farm labour to ensure water troughs are cleaned and as required for good animal health • Ensure uninterrupted & continuous clean water supply	• Impact of clean water on milk production and animal's health. • Fungal growth and its impact on animals • Preventive measures for fungal growth	Theory hrs: 02 Practical hrs: 02 Total : 04 hrs	Water trough, water pump, auto valve, filter, water tanks, cleaning brush	Classroom and Dairy Farm

Module 2: **Supervise Livestock Health**

Overview of the Module: This Module provide the trainee with the necessary skills and knowledge to manage health of the livestock. Trainee will be expected to **Control Ecto and Endo Parasites**, **Vaccinate the Animals, Treat Sick Animals**, **Maintain Bio Security**, **Disease Monitoring and Surveillance and Supervise Mastitis.**After completing this module trainee will gain the necessary knowledge to manage health of the livestock for his/her level of training (level III)

Duration: 316hours **Theory:** 46hours **Practice:** 270 hours

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU1- Control Ecto and Endo Parasites	• Ensure deworming as per schedule to control endo parasites • Arrange Fumigation/disinfection of shed to control ecto parasites • Ensure animal's Dipping for removal of ecto parasites • Inspect the animals physically for parasitic symptoms and Collect faecal and blood samples from suspected animals as per industry schedule	• The mechanism of parasites including: ✓ **Types of ecto and endo parasites** ✓ **Kinds of dewormers and its mode of action** ✓ **The affect of parasites on farm economics** • Control of ecto parasites and application of different types of disinfectants • Importance of dipping of animals and types of disinfectants. • Symptoms of ecto	Theory hrs: 08 hrs Practical hrs: 50 hrs Total : 58hrs.	**Non-Consumables:** Spray Machine **Consumables:** Gloves	Classroom and Dairy Farm

		and endo parasitism and different methods for parasite diagnosis			
LU2- Vaccinate the Animals	*Trainee will be able to:* • *Prepare the vaccination schedule as per standards* • *Arrange the required vaccines according to the schedule* • *Ensure the quality of vaccine and proper storage* • *Timely Vaccinate the animals and ensure the standard dose according to the weight and size of animals*	• Seasonal Diseases and their vaccination schedule • Types of vaccines and its availability source • Importance of vaccination, quality and its storage • Methods of vaccination • Estimation of doses • Contra-indication of different vaccines	Theory hrs: 06 hrs Practical hrs: 50 hrs Total : 56 hrs.	**Non-Consumables:** **Consumables:**	Classroom and Dairy Farm
LU3-Treat Sick Animals	• Identify the sick animals • Isolate the sick animals to avoid transmission • Call the Veterinarian and arrange the required medicines to treat sick animals • Ensure immediate treatment for timely control till recovery	• Types and symptoms of different diseases • Arrangement of separate pens for sick animals • Basic husbandry management • Importance of timely control of diseases • Handling and usage of	Theory hrs: 12 hrs. Practical hrs: 80 hrs Total: 92 hrs.	**Non-Consumables:** Thermometer First Aid Box **Consumables:** Syringes Medicines Gloves Bandages	Classroom and Dairy Farm

	• Keep treatment record of sick animals for treatment history • Advice culling for disease repeaters to avoid economic losses	medicines • Importance of culling for selection and replacement of animals at the farm			
LU4-Maintain Bio Security	• *Ensure bio security protocols to prevent vectors according to industry standards* • *Train the labour regarding bio security to ensure proper compliance of bio security* • *Ensure strength of disinfectant in foot dip as per industry standards* • *Apply quarantine measures at the farm to avoid disease carriers/vectors*	• *Importance of bio security at farm level* • *Procedures for bio security compliance* • *Types of disinfectant used in bio security* • *Animal quarantine and its impact* • *On farm economics*	Theory hrs: 08 hrs. Practical hrs: 30 hrs Total: 38 hrs.	**Fence** **Disinfectants** **Limestone** **Foot mats** **KMnO4**	Classroom and Dairy Farm
LU5. Disease Monitoring and Surveillance on farm	• *Identify sick animal through regular visits for in-time treatment of animals* • *Identify the disease*	• *Different types of diseases* • *Preventive measures for disease outbreak* • *Importance of*	Theory hrs: 06 hrs Practical hrs:	**Non-Consumables:** **Consumables:**	Classroom and Dairy Farm

	outbreak in surroundings to ensure preventive measures	*monitoring and surveillance of Diseases*	30 hrs hrs Total : 36 hrs.		
LU 6. Supervise Mastitis	• *Identify the Symptoms of mastitis for timely treatment* • *Ensure the Milking of affected animals in Isolation to avoid spread in the farm* • *Conduct regular test to prevent the animals from Mastitis*	• *Types of mastitis and its treatment* • *Mode of Mastitis spread* • *Availability of Mastitis Kit* • *Importance of Pre and post dipping*	Theory hrs: 06 hrs. Practical hrs: 30 hrs Total: 36 hrs	**Teat Dip Solutions** **Teat Dip Cups** **Peddle tray** **Detergent**	Classroom and Dairy Farm

Module 3:Manage Breeding as per farm requirement

Overview of the Module:: This module will enable the trainee to get the knowledge and skills to Manage Breeding as per farm requirement. Trainee is expected to **Supervise Heat Detection to Identify proper concealing time, Supervise Insemination**, **Supervise inseminations,** Supervise Parturition, Supervise New-born Care and Assist in implementation of breeding plan. After completing this module trainee will gain the necessary knowledge to Manage Breeding for his/her level of training (level III)

Duration: 374 hours **Theory:** 104 hours **Practice:** 270 hours

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU1- Supervise Heat Detection	• Maintain Cow/Buffalo Calendar to assist in heat detection • Detect heat symptoms timely for precision in inseminations • Apply different means to improve heat detection • Arrange specific feed for animals to improve breeding • Maintain Reproductive Record of herd	• Usage of Cow calendar • Heat detection symptoms • Reproductive cyclicity & silent heat symptoms • Reproductive ration • Types & templates of reproductive record	Theory hrs: 08 hrs Practical hrs: 50hrs Total : 58 hrs.	Cow/Buffalo Calendar, pregnancy kit, teaser bull	Classroom and Dairy Farm
LU2-Supervise Insemination	• Ensure the availability of AI Technician for timely insemination • Maintain A.I. kit at the	• Database of best performing technicians in surrounding areas	Theory hrs: 32 hrs. Practical	AI Gun, gloves, sheath, AI container, thermometer,	Classroom and Dairy Farm

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
	farm according to set standards • Ensure A.I. protocols to achieve high conception that include: i. Use of fresh gloves ii. Use of new sheath iii. Thawing as per standards iv. Liquid nitrogen gas filling v. Sun light exposure • Ensure pedigreed bulls having high conception rate • Ensure bull preparation before natural mating • Select the bull that are neither defective nor disease carrier for natural mating	• Industry standards to maintain AI kit • Factors effecting conception rate during AI • Importance of Breeding & Genetics • Impact of conception on profitability of farm • Reproductive Diseases	hrs: 60 hrs Total :92 hrs.	cattle crush, soap, lubricants, dungaree, rope	
LU 3. Diagnose Pregnancy	• Inspect the cow/buffalo calendar on daily basis • Perform the pregnancy tests as per breeding record • Update cow/buffalo	• Breeding cycle • Protocol of rectal pulpation, use of pregnancy kits and ultrasound machines	Theory hrs: 24 hrs. Practical hrs: 60 hrs	Ultrasound machine, pregnancy kit, gloves, dungaree, gum boots, cattle crush	Classroom and Dairy Farm

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
	calendar on daily basis	• Reproductive physiology	Total: 84 hrs.		
LU 4. Supervise Parturition	• Ensure timely isolation of pregnant animals ready to parturate Ensure proper bedding for hygienic conditions in calving pens • Deploy an experienced and well equipped attendant for safe parturition. • Arrange competent doctor in case of any complication	• Parturition cycle • Importance of post-parturition care • Importance of bedding and hygiene during parturition • Factors leading to difficult birth and retained placenta	Theory hrs: 08 hrs. Practical hrs: 20 hrs Total : 28 hrs.	Disinfectants, rope, dystocia kit, necessary medicines, cleaning cloth, gloves, surgical box	Classroom and Dairy Farm
LU 5. Supervise Newborn Care	• Assure self-presence to supervise newborn management like: ✓ Activate respiratory mechanism ✓ Ensure Licking by dam for blood circulation	• *Mechanism of respiration & blood circulation* • *Disease transmission through orifices* • *Immunization & importance of colostrums feeding*	Theory hrs: 08 hrs. Practical hrs: 20 hrs Total: 28 hrs.		Classroom and Dairy Farm

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
	✓ Ensure Naval disinfection &Ligation for disease control ✓ Ensure immediate colostrum feeding for immunity ✓ Weigh and record the newborn ✓	• *Importance of record management* • *Debudding*			
LU 6. Assist in implementation of breeding plan	• *Assist in selection of bull and semen for breeding purpose* • *Update the Cow/Buffalo Calendar for accurate action* • *Maintain the pedigree records for annual breeding plan at farm*	• *Importance of breed characteristics and semen selection* • *Role of cow calendar in breeding plans* • *Breeding and Genetics, available genetic resources*	Theory hrs: 24 hrs. Practical hrs: 60 hrs Total: 84 hrs.	Cow calendar	Classroom and Dairy Farm

Module 4: **Supervise Milking**

Overviewof the Module:This Module provide the trainee with the necessary skills and knowledge to **Milk Handling & Management** and **Milk Hygiene**,

After completing this module trainee will gain the necessary knowledge to supervise milking for his/her level of training (level III)

Duration: 83 hours **Theory:** 13 hours **Practice:** 70 hours

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
I1 – Supervise Milking Management	• Ensure milking intervals to avoid animal stress • Manage Milk Storage as per defined SOPs • Ensure CIP of Milking Equipment to avoid contamination • Identify the utensils according to Food grade standard • Perform hand milking and machine milking	• Importance of milking physiology • Storage protocols • Importance of CIP • Usage, Availability and comparative advantage of standard shaped utensils • SOPs of Food grade standards • Hand milking and machine milking process	Theory hrs: 08 hrs. Practical hrs: 35 hrs Total:43 hrs.	**Non-Consumables:** Brushes Chiller Milk canes Dummy Cow model **Consumables:** Detergents Pre and Post dip solutions Teat dip cups	Classroom and Dairy Farm
I2. Supervise Milk Hygiene	• Manage Cleanliness of	• SOPs for cleanliness	Theory hrs: 05 hrs.	**Non-Consumables:**	Classroom and Dairy Farm

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
	Utensils as per standards • Manage Milkers (Gawala's) Cleaning to avoid contamination • Supervise Udder Cleanliness as per standards • Ensure Pre and Post Teat Dipping to prevent mastitis	of utensils, milkers and udder • Udder physiology • Bacterial attack during milking • Disinfectants • Mastitis Control Protocols (Teat dipping)	Practical hrs: 35 hrs Total: 40 hrs	**Consumables:**	

Module 5: Supervise Farm Assets Management

Overview of the Module: This Module provide the trainee with the necessary skills and knowledge to**Supervise Farm Assets**. After completing this module trainee will gain the necessary knowledge to supervise farm labour, maintain farm machinery and provide suitable housing for his/her level of training (level IV)

Duration: 221 hours **Theory:** 71 hours **Practice:** 150 hours

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU1- Supervise Farm Labour	*Trainee will be able to:* • Assign duties for the	Basic Welfare of labour admissible under the prevailing rules of the country	Theory hrs: 15 hrs.	**Non-Consumables:** .	Classroom and Dairy Farm

	completion of the farm tasks • Monitor Performance for improvements and better utilization of staff • Create conducive environment for efficient output • Supervise Farm staff/security	• • Performance indicators • Basic farm Managemental tools • Livestock and labour Security protocols and procedures	Practical hrs: 30 hrs Total: 45 hrs	**Consumables:**	

LU2- Maintain Farm Machinery	*Trainee will be able to:* • Ensure smooth operations of farm machinery which will include; ✓ Dairy Machinery ✓ Fodder machinery ✓ Operational implements Adopt safety measures while performing the maintenance of the farm machinery • Perform Calibration	• Preventive Maintenance of Machinery like; ✓ Milking Machine ✓ Milk Chillers ✓ Fodder Mover ✓ Chopper ✓ Harvester ✓ Silage Machine ✓ Tractor ✓ Baling machine ✓ Weighing scales ✓ Generators ✓ Motors	Theory hrs: 16 hr. Practical hrs: 60 hrs Total: 76 hrs.	**Non-Consumables:** Tools Kits **Consumables:** Spare parts	Classroom and Dairy Farm

	of weigh bridge to ensure accuracy in weighing • Maintain Machine Log Book	• Calibration of weigh scales			

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU 3. Provide Suitable Housing	• Ensure the proper housing of livestock according to animal comfort standards that includes; ✓ **Required Space** ✓ **Clean Water troughs** ✓ **Farm Hygiene** ✓ **Weather Stress Management** ✓ **Storage** ✓ **Sick Pens** ✓ **Calving pens** • Manage the Manure efficiently according to standards and its utilization in biogas plants	• Housing standards Stall area, Paddock area, loafing area, Rest area, Milking parlour area, calf pens, heifers and dry animals pens, pregnant animals pens, Bull paddock, Sick animals pen, Cooling systems, water troughs, feeding mangers and sand usage in rest area. • Farm hygiene standards • Utilization of manure as organic fertilizer and its inversion • Biogas plant mechanism as per	Theory hrs: 40hrs. Practical hrs: 60 hrs Total: 100 hrs.	**Non-Consumables:** **Consumables:**	Classroom and Dairy Farm

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
	• Ensure the Quarantine Section to avoid disease vectors	farm capacity • Disease vectors and quarantine procedures			

Module 6: **Manage Livestock Marketing**

Overviewof the Module:This Module provide the trainee with the necessary skills and knowledge to **Perform sale, purchase and culling of animals according to the farm requirement, Sale of Produce, Purchase of fodder/feed ingredients and Purchase vaccine, medicines and semen doses**

After completing this module trainee will gain the necessary knowledge to Manage marketing of livestock for his/her level of training (level III)

Duration: 122 hours **Theory:** 32 hours **Practice:** 90 hours

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU 1. **Perform sale, purchase and culling of animals according to the farm requirement**	• **Identify the livestock according to the requirement which will include**	• **Types of livestock and its characteristics**	Theory hrs: 19hrs. Practical	**Non-Consumables:** **Consumables:**	Classroom and Dairy Farm

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
	✓ **Health** ✓ **Age** ✓ **Gender** ✓ **Price** • **Make transport arrangements according the size, type and distance to travel for the livestock** • **Apply health and safety procedures according to the set industry standards of animal welfare**	• **Health and safety procedures for livestock transportation** • **Livestock Behaviour** • **Market Trends** • **Different means of transportation** • **Rules and regulations of animal welfare**	hrs: 40 hrs Total: 59 hrs		
LU 2. Sale of Farm Produce	• Identify the potential buyers to fetch better price of produce • Select cost effective transportation according to the	• Negotiate the price with buyers • Modalities of agreement • Modes of transportation	Theory hrs: 08 hrs. Practical hrs: 30 hrs	Fat test equipment Milking canes	Classroom and Dairy Farm

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
	volume of the farm produce. • Ensure the quality of farm produce as per industry standards	• Industry standards for farm produce	Total: 38 hrs		
LU3: **Purchase of Vaccine, medicine & semen doses**	• Determine the quantity and quality of vaccine, medicine and semen doses according to the farm requirement • *Identify the appropriate markets/dealers/suppliers for purchases* • *Arrange suitable transportation means for the purchased goods*	• ***Calculate Quantity of semen doses required for inseminations*** • *Types of vaccine ,medicines and semen* • *Date of manufacture and expiry of the product purchased* • *Mode of transportation and protocols to be followed*	Theory hrs: 05hrs. Practical hrs: 20 hrs Total: 25 hrs		Classroom and Dairy Farm

Module7: Maintain Livestock and Farm Record

Overview of the Module: This Module provide the trainee with the necessary skills and knowledge to **Maintain Livestock Strength Record, Maintain Feeding Record, Maintain Production Record, Maintain Breeding record, Maintain Treatment Record and Maintain Farm Assets Record**. After completing this module trainee will gain the necessary knowledge to manage farm records for his/her level of training (level III)

Duration: 153 hours **Theory:** 33 hours **Practice:** 120 hours

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU1- – Maintain Farm and Feeding Record	• Update the livestock strength of the farm in order to know the exact status like;entries about newborn, purchase, mortality, culled. • Update the record of human resource	• Designing of templates for livestock strength record	Theory hrs:5 hrs. Practical hrs: 25 hrs Total : 30 hrs	**Non-Consumables:** Registers Markers Computers Boards **Consumables:**	Classroom and Dairy Farm
LU2- Maintain Production Record	• Update the Production record to calculate the feed requirements of the animals & farm productivity that includes: ✓ **Milk**	• Importance of milk and by-products record • Templates • Calculation of Feed Requirements	Theory: 06 hrs Practical: 25 hrs Total : 31 hrs	**Non-Consumables:** Computer **Consumables:** Stationery	Classroom and Dairy Farm

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
	✓ **By-products**				
LU 3. Maintain Breeding record	• *Update the breeding record to meet the future breeding plans at the farm that includes:* ✓ ***Pedigree record*** ✓ ***Mating/AI Record*** ✓ ***Reproductive disease record*** ✓ ***Semen record*** ✓ ***Herd fertility record*** ✓ ***Heat Detection record***	• *Importance of maintaining breeding record* • *Templates* • *Semen Catalogue reading*	Theory hrs: 8 hrs. Practical hrs: 25 hrs Total: 33 hrs	Computer Stationery Generator	Classroom and Dairy Farm
LU 4. Maintain Treatment Record	• *Update the treatment recordfor future selection & replacement and necessary remedies*	• *Importance of treatment record* • *Templates*	Theory hrs: 08 hrs. Practical hrs: 25 hrs Total: 33 hrs	Computer Stationery	Classroom and Dairy Farm
LU 5. Maintain	• *Update the farm*	• *Importance of farm*	Theory	Computer	

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
Farm Assets Record	*assets record to assure its proper placement*	*assets record* • *Templates*	hrs: 06 hrs. Practical hrs: 20 hrs Total: 26 hrs	Stationery	

4. Assessment Guidelines

Competency-based assessment is the process of gathering evidence to confirm the candidate's ability to perform according to specified outcomes articulated in the competency standard(s).

4.1 Types of assessment

a) Sessional assessment

The goal of sessional assessment is to monitor student progress in order to provide constant feedback. This feedback can be used by the trainers to improve their teaching and by learners to improve their learning.

More specifically, sessional assessments Help learners to identify their strengths and weaknesses and Help trainers to recognize where learners are struggling and address problems immediately

Examples of sessional assessments include:

- Observations
- Presentations
- Activity sheets
- Project work
- Oral questions

b) Summative (final) assessment

The goal of summative (final) assessment is to evaluate learning progress at the end of a training programme by comparing it against, e.g. set of competency standards.

Examples of summative assessments include:

- Direct observation of work activities
- Final project
- Written questions

4.2 Principles of assessment

When conducting assessment or developing assessment tools, trainers/assessors need to ensure that the following principles of assessment are met:

Validity

- Indicates if the assessment outcome is supported by evidence. The assessment outcome is valid if the assessment methods and materials reflect the critical aspects of evidence required by the competency standards (Competency units, performance criteria, knowledge and Learn).

Reliability

- Indicates the level of consistency and accuracy of the assessment outcomes. The assessment is reliable if the assessment outcome will produce the same result for learners with equal competence at different times or places, regardless of the trainer or assessor conducting the assessment.

Flexibility

- Indicates the opportunity for learners to discuss certain aspects of their assessment with their trainer or assessor, such as scheduling the assessment. All learners should be made aware of the purpose of assessment, the assessment criteria, the methods and tools used, and the context and proposed timing of the assessment well in advance. This can be achieved by drawing up a plan for assessment.

Fair assessment

- Fair assessment does not advantage or disadvantage particular learners because of status, race, beliefs, culture and/or gender. This also means that assessment methods may need to be adjusted for learners with disabilities or cultural differences. An assessment should not place unnecessary demands on learners that may prevent them from demonstrating competence.

Assessment context:

This unit has to be assessed on the job, off the job, or a combination of on and off the job demonstrated by an individual work.

Critical aspects:-

- Ability to
-

Assessment condition:-

- Each unit should be assessed separately.
- The candidate will have to access all the related tools, equipment, material and demonstrations required.
- The candidate will be required orally or by other methods of communication to answer questions asked by the assessor.
- Present evidence related to the skills
- Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by criteria and that he possesses the required knowledge and skill.

4.3 Resources required for assessment:-

It includes all tools, equipment and related material, listed in the curriculum

5. List of Tools, Machinery & Equipment

Total number of students: 20

Name of Trade	**Dairy Farm Supervisor**
Duration	1 year

Sr. No.	**Name of Item/ Equipment / Tools**	**Quantity**
1.	Dummy Model for Practical	01
2.	AI Tool Kit (complete)	20
3.	Milking Machine models	05
4.	Housing Lay out Model	05
5.	Experimental Cows	10
6.	First Aid Tools Kits	02
7.	Tractors	01
8.	Trolley	01
9.	Plough	01
10.	Blades	01
11.	Rotavator	01
12.	Fertilizer spreader	01
13.	Mower/Fodder Cutter	01
14.	Hay Rake	01
15.	Balers	01
16.	Fodder Cutter/Chopper	01
17.	Silage Machine	01
18.	Combine harvester for Silage	
19.	Sickles	20
20.	Wheel barrow	05

21.	Shovels	05
22.	Generator	01
23.	Welding Plant	01
24.	Electrical Maintenance Kit	01
25.	Mechanical Tool Kit	01
26.	Drenching Gun	05
27.	Vaccinator gun	05
28.	Tags and applicators	05
29.	Uniform/Dungarees	20
30.	De-horner	05
31.	Hoof trimmer	05
32.	Rope set	05
33.	Weighing scale	05
34.	Spray machine	05
35.	Milk cane	05
36.	Milk sampler	05
37.	Milk Chiller	01
38.	Electrical fence	01
39.	Wrapping machine	01
40.	Milk Buckets	05
41.	Water troughs	01
42.	Water pump	01
43.	Auto valve	05
44.	Cleaning brushes	20
45.	Cow Calendar	05
46.	Weighing bridge	01
47.	Weighing scale for calves	01
48.	Ultra sound machines	01
49.	Dystokia kit	01
50.	Sampling bottles	10
51.	Disinfectants	02

52.	Vaccine Kits	05
53.	Measuring tape	05
54.	Foot dips	05
55.	Sprinklers	10
56.	Cow rest mats	05
57.	Manure spreader	01
58.	Computer	10
59.	Calf feeding buckets	05
60.	Cattle Crush	01
61.	Specialized Cooling Fans	01
62.	Surgical Kit	01
63.	CMT Kits	05
64.	Milk Testing Kits	05
65.	Freezers	01
66.	Castrator	05
67.	Bathing Tub	02
68.		
69.		

List of Consumable Supplies(for a class of 20 students)

Name of Trade	**Dairy Farm Supervisor**	
Duration	**Name of Consumable Supplies**	**Quantity**
Sr. No.		
1.	Pencils	20
2.	Erasers	20
3.	Calculators	20
4.	Note Books	100
5.	Notice Board	1
6.	Board Markers	100
7.	Vaccines and Medicines (Samples)	All types
8.	Disinfectants (Samples)	Different Types
9.	Seeds and Fertilizers (Samples)	All types
10.	Detergents (Samples)	Different Types
11.	Pesticides (Samples)	As per requirement
12.	Feed Ingredients (Samples)	All types
13.	Record Registers (samples)	All types
14.		
15.		
16.		

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