

ANIMAL PRODUCTION LEVEL 4

MODULE 1

AGR/OS/AP/CR/04/4/MA

ESTABLISH FARM STRUCTURES

MAY-JULY 2025



TVET CURRICULUM DEVELOPMENT, ASSESSMENT AND CERTIFICATION COUNCIL (TVET CDACC)

PRACTICAL ASSESSMENT

INSTRUCTIONS TO THE ASSESSOR:

1. This assessment is to take place in the prescribed order as arranged in the tool.
2. Capture clear **photographs** and/or **videos** of each candidate's work as they perform the tasks and Label all media files with Candidate Registration Number, Unit Code, Practical Session Number, and Date.
3. Record candidate scores and assessor remarks in the observation checklists for each session.
4. Store all completed checklists, media files, and candidate drawings in a secure digital/physical folder per candidate.

1. CANDIDATE & ASSESSOR DETAILS

Candidate Name:	CDACC Reg. No.:
Assessor Name:	Assessor ID Number:

2. PROJECT BRIEF

In this project, you will be required to demonstrate competence in all four elements by completing three hands-on sessions (each ~4 hours) and an oral assessment (~1 hour). Follow the working drawings and specifications provided.

3. CUTTING LIST (PER CANDIDATE)

Item	Description	Quantity	Provided By
Wheelbarrow	Standard, single wheel	1	Institution
Hoe	Standard size	1	
Spade	Standard	1	
Spirit level	24"	1	
Measuring tape	30 meters	1	
String line	30 meters	1 roll	
Pegs	Timber or plastic	10	
Posts	6" treated timber	5	
Cement	50 kg bag	2	
Sand	Clean for mortar	0.2 m ³	
Aggregate	Clean	0.2 m ³	

Water	Clean	As required	
Nails	3"and 6"	1 kg	
PPE	Helmet, gloves, boots	1 set per candidate	Candidate

4. SECTION 1 (SESSION 1 – 4 HOURS): FOUNDATION & SITE PREPARATION

Assessment Date:	
Assessment Venue:	

Elements Covered

1. Foundation
2. Site preparation

4.1 Tasks

- Carry out site layout & Trenching
- Set out foundation for animal house

4.2 Practical Checklist

No.	Performance Criterion	Max Marks	Awarded
1	Correctly identified structured site per layout plan • Read and interpreted layout plan accurately, identifying structure location, orientation, and boundaries. • Used measuring tools (e.g., tape, laser level) to locate the exact coordinates as shown on the plan. • Marked reference points and benchmarks for alignment and level checking. • Verified structure location against physical landmarks and site conditions. • Confirmed site suitability for construction based on soil type, drainage, and access. • Consulted plan scale and legend to ensure proper interpretation of dimensions and features.	6	

	<i>(Award 1 mark for each correct answer 1*6 = 6)</i>		
2	Marked and set out structured corners accurately • Used pegs, lime, or string lines to mark the exact corners and dimensions of the structure. • Applied the 3-4-5 triangle method or diagonal checks to ensure square corners. • Confirmed corner positions with layout drawings and measurements. • Used a builder's level or spirit level to ensure horizontal alignment. • Double-checked all corner measurements to avoid cumulative errors. • Marked batter boards and lines clearly for guiding excavation and formwork placement. <i>(Award 1 mark for each correct answer 1*6 = 6)</i>	6	
3	Excavated trench to standard depth and alignment • Excavated to the specified depth (e.g., 450 mm or as per plan) using hand tools or machinery. • Maintained trench width consistently according to the plan. • Ensured trench bottom is level and aligned with structure layout. • Removed loose soil and debris from the trench base. • Avoided undercutting or over-excavating, correcting as needed. • Checked trench alignment regularly using a straightedge or level. <i>(Award 1 mark for each correct answer 1*6 = 6)</i>	6	
4	Installed formwork and compacted trench base • Installed formwork to correct dimensions using planks, nails, and supports. • Ensured formwork is level and stable, resisting concrete pressure. • Applied oil or release agent to formwork surfaces to prevent sticking.	6	

	• Compacted the trench base manually or mechanically to provide a stable foundation. • Backfilled or adds gravel to low spots before compaction to maintain evenness. • Inspected formwork alignment and tightness before pouring concrete. <i>(Award 1 mark for each correct answer $1*6 = 6$)</i>		
5	Mixed and poured concrete in correct ratio (1:2:4) • Measured materials accurately using the standard mix ratio of 1 part cement, 2 parts sand, and 4 parts gravel (aggregate), ensuring consistent proportions. • Used clean, potable water and controls the water-cement ratio to achieve the right workability without weakening the concrete. • Mixed the ingredients thoroughly (by hand) until the mixture is uniform in color and texture, with no dry patches. • Poured the concrete promptly after mixing to prevent setting before placement, and uses tools like vibrators or tamping rods to eliminate air pockets and ensure proper compaction. <i>(Award 2 mark for each correct answer $2*4 = 8$)</i>	8	
6	Maintained structural alignment (± 10 mm) • Used levels, plumb bobs, and measuring tape to maintain alignment within acceptable tolerance. • Checked wall or column verticality regularly during construction. • Adjusted formwork or guide strings when minor misalignments are detected. • Monitored dimensions at multiple points to ensure consistency. • Applied shims or spacers as needed for minor corrections. • Documented alignment checks in construction log or quality checklist <i>(Award 1 mark for each correct answer $1*6 = 6$)</i>	6	
7	Ensured safety and environmental compliance		

	- Worn appropriate PPE (helmet, gloves, boots, and reflective vest) at all times. - Implemented hazard signage and barriers around excavation or high-risk areas. - Prevented spillage of concrete or fuel into the environment. - Avoided construction near water sources. - Maintained first aid and fire extinguishing equipment on site. - Observed safety protocols and emergency procedures. <i>(Award 1 mark for each correct answer 1*6 = 6)</i>	6	
8	Site cleaned-up and disposal of waste materials - Removed leftover concrete, formwork, and debris from the site promptly. - Sorted waste into recyclable and non-recyclable materials. - Used designated disposal areas or bins for proper waste handling. - Cleaned tools and equipment to prolong service life and maintained hygiene. - Backfilled and leveled excavated areas, restoring landscape as required. - Left the site tidied and safe for further work or handover. <i>(Award 1 mark for each correct answer 1*6 = 6)</i>	6	
	Total Section 1	50	

NB: Photos and videos should be taken as the candidate performs items 2, 3, 4, 5 & 6.

5. SECTION 2 (SESSION 2 – 4 HOURS): WALLING & FEED STORAGE CONSTRUCTION

Assessment Date:	
Assessment Venue:	

Elements Covered

1. Walling
2. Feed storage unit wall
3. Roofing frame

5.1 Tasks

- Lay block wall
- Install DPC
- Construct ventilation gaps
- Fix temporary roofing

5.2 Practical Checklist

No.	Performance Criterion	Max Marks	Awarded
1	Laid block wall to plumb and level • Set up a string line or guided to maintain a straight and level wall throughout construction. • Used a spirit level and plumb bob to check vertical and horizontal alignment of each course. • Applied mortar evenly and consistently, ensuring uniform bed and head joints. • Aligned each block carefully with adjacent blocks and corrected misalignments immediately. • Kept joint thickness uniform (typically 10–12 mm) for a neat finish and structural stability. • Checked level at every course before proceeding to the next, adjusting as needed. • Removed excess mortar and finished joints cleanly as work progresses. <i>(Award 1 mark for each correct answer 1*7= 7)</i>	7	
2	Installed DPC correctly at base • Placed DPC material (e.g., plastic sheet, bitumen felt) on a clean and level mortar bed. • Ensured full coverage under the entire wall width with no gaps or overlaps. • Overlapped DPC joints by at least 150 mm sealing them to prevent moisture entry.		

	• Installed DPC at least 150 mm above ground level to prevent rising damp. • Avoided folding or wrinkling the DPC material, keeping it flat for full contact. • Aligned DPC layer with wall alignment and plumb lines for a continuous moisture barrier. • Inspected and adjusts before laying the first course of blocks above the DPC. <i>(Award 1 mark for each correct answer 1*7= 7)</i>	7	
3	Constructed ventilation gaps per design • Followed the construction plan accurately, ensuring that the size, number, and placement of ventilation gaps match the design specifications. • Left uniform and precise gaps between blocks or installs pre-formed ventilation units as required for consistent airflow. • Checked that all ventilation gaps are level and evenly spaced, contributing to both effective ventilation and structural symmetry. • Used spacers or guided tools during block laying to maintain the correct size and alignment of each ventilation gap. • Cleaned excess mortar and debris from ventilation gaps, ensuring that airflow is unobstructed and the structural integrity is not compromised. <i>(Award 1 mark for each correct answer 1*5= 5)</i>	5	
4	Assembled truss frame correctly • Selected and cut timber or steel members to accurate measurements based on design. • Assembled truss on flat, level ground to ensure alignment and safety. • Connected truss joints using correct hardware (e.g., bolts, plates, gussets) per specifications. • Checked all angles and lengths to match truss type (e.g., king post, queen post, or Howe). • Reinforced stress points and applied bracing as required for stability. • Verified squareness and plumb of the assembled frame before lifting.	7	

	Inspected completed trusses for defects or weak joints before installation. <i>(Award 1 mark for each correct answer 1*7= 7)</i>		
5	Fixed temporary roofing cover securely - Used durable, waterproof materials such as tarpaulin or plastic sheeting. - Secured cover tightly with ropes, nails, or battens to prevent wind uplift. - Overlapped joints properly to prevent rainwater penetration. - Sloped the cover adequately to ensure proper runoff and avoid water pooling. - Anchored cover to stable structures or weights to prevent displacement. - Avoided over-tensioning that could tear material or stress frame components. - Conducted regular checks during construction to maintain integrity of temporary cover. <i>(Award 1 mark for each correct answer 1*7= 7)</i>	7	
6	Handled tools and materials safely - Used personal protective equipment (PPE) such as gloves, helmets, boots, and goggles. - Lifted heavy materials properly, using correct posture or mechanical aids. - Stored tools and materials in safe, designated areas to prevent tripping hazards. - Inspected tools before use for damage or defects. - Operated cutting and mixing tools following safety guidelines and manuals. - Kept sharp or heavy tools secure when not in use, avoiding injuries. - Practiced good housekeeping on site, cleaning up spills and debris regularly. <i>(Award 1 mark for each correct answer 1*7= 7)</i>	7	
Total Section 2		40	

NB: Photos and videos should be taken as the candidate performs items 1,2,3, 4, 5.

6. SECTION 3 (SESSION 3 – 4 HOURS): DRAINAGE & WASTE DISPOSAL SYSTEM

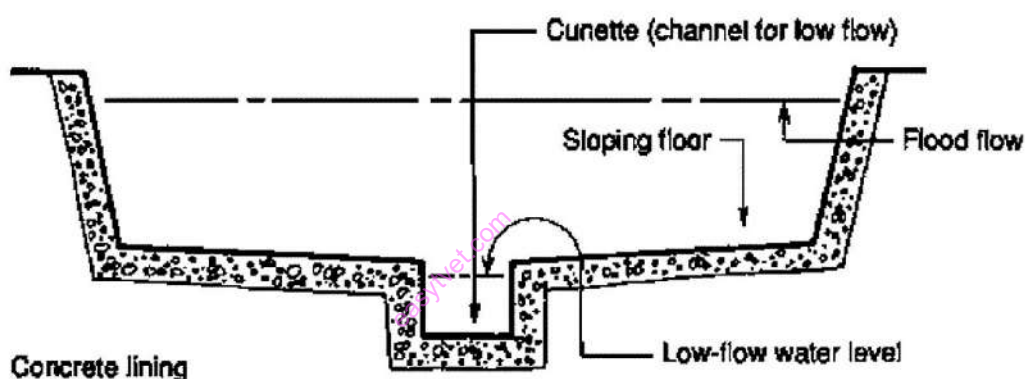
Assessment Date:	
Assessment Venue:	

Elements Covered

1. Drainage
2. Waste disposal system

6.1 Tasks

- Construct drainage channels
- Install waste pit



6.2 Practical Checklist

No.	Performance Criterion	Max Marks	Awarded
1	Layout and dig sloped drainage channel • Followed site plan or slope diagram to mark the correct path and gradient of the channel. • Used stakes, string lines, or chalk to set out the direction and width of the drainage channel. • Maintained consistent slope (e.g., 1–2%) to ensure effective water flow and prevent pooling. • Excavated to correct depth and profile, as per specifications. • Removed obstructions such as rocks, roots, or debris during excavation. • Checked slope accuracy using a level, hosepipe, or laser level throughout the digging process.	6	

	<i>Award 1 mark for each correct answer 1*6= 6)</i>		
2	Lined and compacted the channel base • Leveled and compacted the base of the channel to prevent erosion and uneven flow. • Used compactors or hand tampers to achieve a stable and firm base. • Lined the channel with suitable material, such as concrete, stones, bricks, or geo-membrane. • Ensured lining is watertight and securely fixed, especially in erosion-prone areas. • Aligned side slopes and base evenly for smooth water movement. • Inspected the channel base for cracks, gaps, or weak spots before final use. <i>Award 1 mark for each correct answer 1*6= 6)</i>	6	
3	Built soak pit with approved materials • Excavated soak pit to the required dimensions and depth, ensuring it is appropriate for site drainage needs. • Used approved materials such as gravel, large stones, concrete rings, or perforated drums. • Installed filter media layers properly, e.g., sand over gravel, to improve water percolation. • Lined the soak pit walls, if required, with bricks, stones, or reinforced concrete for durability. • Provided a cover or mesh to prevent debris entry and ensure safety. • Checked that the soak pit is located away from buildings or water sources in compliance with sanitation guidelines. <i>Award 1 mark for each correct answer 1*6= 6)</i>	6	
4	Ensured structure stability and finished quality • Checked that all components are level, plumb, and properly compacted to avoid future settling or failure. • Secured structural elements with mortar, cement, or binding material, depending on design. • Smoothed surfaces and edges, ensuring a neat and professional finish.	6	

	- Filled gaps and seals joints to prevent leakage or collapse. - Conducted visual inspection for alignment, durability, and water-tightness. - Tested water flow through the system, verifying function before handover. <i>Award 1 mark for each correct answer 1*6= 6)</i>		
5	Maintained environmental and safety compliance - Implemented proper signage and barriers around excavation to prevent accidents. - Used PPE (e.g., gloves, boots and helmets) during all construction phases. - Avoided disposal of waste or spoil into nearby water bodies or sensitive areas. - Directed runoff safely to prevent erosion or contamination of the surroundings. - Stored and used materials away from waterways to avoid chemical or sediment pollution. - Restored disturbed areas (e.g., backfilling, planting grass) after completing construction. <i>Award 1 mark for each correct answer 1*6= 6)</i>	6	
	Total Section 3	30	

NB: Photos and videos should be taken as the candidate performs items 1, 2, 3 & 4

7. SECTION 4: ORAL ASSESSMENT (25 MARKS)

Assessor to award marks for each correct response by the candidate in the table below:

Q#	Question	Expected Key Points	Max Marks	Awarded
1	Why is site selection important in structure construction?	- Affects drainage - Easy access - Biosecurity <i>(Award 1 mark for each correct answer 1*3= 3)</i>	3	

2	What is the function of DPC?	• Prevents moisture rising through wall. • Safeguarding structural integrity • Mitigating health problems <i>(Award 1 mark for each correct answer 1*3= 3)</i>	3	
3	Name one way to test concrete mix quality on site.	• Slump test or hand feel consistency <i>(Award 3 marks for each correct answer 3*1= 3)</i>	3	
4	How do you ensure roof truss alignment?	• Use spirit level and string line <i>(Award 3 marks for each correct answer 3*1= 3)</i>	3	
5	List three PPE used in construction and their function	• Overall • Gloves -hand protection • Helmet <i>(Award 1 mark for each correct answer 1*3= 3)</i>	3	
6	What factors affect drainage gradient?	• Slope • Soil type • Channel design <i>(Award 1 mark for each correct answer 1*3= 3)</i>	3	
7	Why is waste disposal pit important in animal housing?	• Prevents environmental contamination. • Help manage odor	3	

		• Reduce insect and rodent populations <i>(Award 1 mark for each correct answer 1*3= 3)</i>		
8	What should be included in maintenance records?	• Date • Activity • Structure type • Materials used <i>(Award 1 mark for each correct answer 1*4= 4)</i>	4	
	Total Oral		25	

8. SUMMARY OF ASSESSMENT

PRACTICAL ASSESSMENT			
S/N	SECTION	Total Marks	Marks Awarded
1.	Assessment 1	50	
2.	Assessment 2	40	
3.	Assessment 3	30	
	Total	120	
	Percentage (100%)		
ORAL ASSESSMENT			
1.	Oral Assessment	25	
	Percentage (100%)		

ASSESSMENT OUTCOME	
The candidate was found to be: Competent Not yet Competent	

(Please tick as appropriate)

The candidate is competent if the candidate obtains an average of at least 50%

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