

051106T4APB

APPLIED BIOLOGY LEVEL 6

APB/OS/AB/CR/05/6

Carry Out Ecological and Soil Studies

July/August 2025



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

PRACTICAL ASSESSMENT

INSTRUCTIONS TO ASSESSOR

1. Assess the candidate as the practical progresses observing the critical areas
2. You are required to mark the practical as the candidate perform the tasks
3. You are required to take video clips at critical points
4. Ensure the candidate has a name tag and registration code at the back and front

OBSERVATION CHECKLIST

Candidate's Name			
Candidate's Registration Code			
Assessors Name & Registration Code			
Venue of Assessment			
Date of Assessment			
Items to be Evaluated: <i>Please award marks as appropriate. Give a brief comment on your observation.</i>	Marks Available	Marks Obtained	Comments
TASK 1: To estimate the population size of a plant species using Quadrat Method			
1. Wore PPEs - Laboratory coat - Closed shoes <i>Award 1 mark for each or 0</i>	2		
2. Assembled equipment for population determination - Pegs for marking/Small markers - Book and pen - Quadrat (0.6 m x 0.6m) - Calculator <i>Award 1 mark for each or 0</i>			
3. Selected three locations within the simulated ecosystem (indicated by marking each area as A, B and C) <i>Award 1 mark for each or 0</i>	3		
4. Determined population of plant species in each area using the procedure below. i. Stood a designated point within the selected location A ii. Held the quadrat above the head	5		

iii. Threw the quadrat randomly iv. Repeated steps (i) to (iii) five times at different points in location A v. Recorded the number of each plant (refer to Appendix 1) <i>Award 1 mark for each or 0</i>			
5. Repeated the above steps for location B <i>Award 1 mark for each or 0</i>	5		
6. Repeated the above steps for location C <i>Award 1 mark for each or 0</i>	5		
7. Filled Table 1 <i>refer to Appendix 1</i>	21		
8. Cleared the area - Removed pegs - Disposed all used materials properly <i>Award 1 mark for each or 0</i>			
Sub-Total 1	44		
TASK 2: To determine soil texture using the feel method			
1. Wore PPEs - Laboratory coat - Closed shoes - Mask <i>Award 1 mark for each or 0</i>	3		
2. Assembled materials for the practical - Three soil samples - Sand soils (labeled A); Silt (labelled B) and Loam soil (labelled C) - Water in a wash bottle - Soil texture triangle <i>Award 1 mark for each or 0</i>	3		

3. Performed soil texture determination on soil sample A i. Placed the dry soil between the fingers to determine grittiness ii. Moistened a small amount of soil with water. iii. Kneaded the soil iv. Attempted to form a ball v. Squeezed the soil between your thumb and forefinger to form a ribbon. vi. Listed the characteristics of each soil in a table based on the soil texture triangle <i>Award 1 mark for each or 0</i>	6		
4. Repeated the same procedure for sample B <i>Award 1 mark for each or 0</i>	6		
5. Repeated the same procedure for sample C <i>Award 1 mark for each</i>			
6. Cleaned the work surface • Disposed off the wastes in a bin • Cleaned the apparatus • Cleaned the work bench <i>Award 1 mark for each or 0</i>			
Sub- Total 2	27		
GRAND TOTAL	71		
ASSESSMENT OUTCOME			
The candidate was found to be: Competent ☐ Not yet Competent ☐ (Please tick as appropriate) (The candidate is competent if the candidate obtains at least 50%)			

Feedback from the Candidate:	
Feedback to the Candidate:	
Candidate Signature _____	Date: _____
Assessor's Signature _____	Date _____

Appendix 1 - Award marks based on students observation**(21 Marks)**

Location A						Location C	
Toss	No. of plants	Toss	of plants	Toss		No. of plants	
1		1		1			
2		2		2			
3		3		3			
4		4		4			
5		5		5			
Total							
Average							