051106T4APB

APPLIED BIOLOGY LEVEL 6

APB/OS/AB/CR/03/6/A

Perform Taxonomic Studies

March/April 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 & Registration Code			
Assessors Name & Registration Code			
Venue of Assessment			
Date of Assessment			
Items to be Evaluated: *Please award Marks as appropriate. Give a brief comment on your observation.*	**Marks Available**	**Marks Obtained**	**Comments**
TASK 1: Observe the specimens K, L, M, N and O, identify them into their correct hierarchical classification units using their features.			
1. Appropriately worn PPE • Closed flat shoes • Gloves • Laboratory coat • Face mask *(Award 1 Mark or 0 for each)*	**4**		
2. Prepared the work bench. • Cleaned the working bench • Assembled apparatus, equipment and materials/specimens *(Award 1 Mark or 0 for each)*	**2**		
Sub-total:	**6**		
3. Used a magnifying/hands lens to observe the external features of specimens **K, L, M, N and O.** • Placed each of the specimen on a white tile • Used a hand lens to observe the upper part of each of the specimens • Turned each of the specimen upside	**12**		

down and observed the lower side.
• Noted observable features of the specimen:
  • Body segments: **All have 3**
  • Number of legs/appendages: **All have 6**
  • Wings: **Present in all**
  • Mouth parts:
  • K- **Filiform**
  • L- **Setaceous**
  • M- **Geniculate**
  • N- **Filiform**
  • O- **Serrate/Lamellate**
  • Antennae: **Present in all**
(Any other key physical features).
(Award 1 Mark or 0 for each)			

4. Classified the organisms **K, L, M, N and O.** Mentioned the correct common names, order, class and Phylum of the specimens Common names • K- **Grasshopper** • L- **Cockroach** • M- **Ant** • N- **Butterfly** • O- **Beetle** (Accept correct scientific name) Orders • K- **Orthoptera** • L- **Dictyoptera** • M- **Hymenoptera**	**12**		

• N- **Lepidoptera** • O- **Isoptera** Class: **Insecta** Phylum: **Phylum** *(Award 1 Mark or 0 for each)*			
Sub-total:	**24**		
TASK 2: Observe specimen P under the microscope, compare its observable features with those of specimen Q and classify them into their Kingdoms			
5. Observed Specimen Q using a magnifying glass/lens. • Correctly observed the specimen Q • Correctly stated the observable features the specimen Q **Q- Filamentous, Hyphae, sporangiophore, sporangium, grey/black** *(award 2 Marks or 0 for each*)	**4**		
6. **Observed Specimen P under the microscope.** • Correctly plugged the microscope to the power source and switched on. • Aligned the eye piece and objective lens of the microscope	**20**		

• Correctly prepared the slide on the stage. • Correctly mounted specimen P. • Started with low power magnification lens and proceeded to medium, then high-power lens. • Observed and noted the physical features of specimen P • **Filamentous, cell structures for example cytoplasm, green,** *(award 2 Marks or 0 for each)* Compared the specimens Stated two observable differences between specimen P and Q. • **Q- Hyphae, sporangiophore, sporangium, grey/black** • **P- cell structures for example cell wall, cytoplasm, green** *(award 2 Marks or 0 for each)* Predicted the Kingdom to which each of the organisms belong. • **P- Protista** • **Q- Fungi** ***(Award 1 Marks or 0 for each)***			
Subtotal:	**24**		
TASK 3: Observe, identify specimen R and S and note the difference in their reproductive			

adaptive features.			
7. Observed specimen R and S and noted reproductive adaptive features. • **flower/ inflorescence** • Identified the specimen based on observable features. • R- **Maize *Zea mays*)** • S- **Bean (*Phaseolus vulgaris*)** ***(Award 1 Mark or 0 for each)*** • Stated at least two differences in the reproductive features (inflorescence) of the specimen • R-**showy, not brightly coloured, light, 3 floral parts** • S- **Brightly coloured, 4/5 floral parts, scented, large, structure to attract specific pollinators** ***(Award 2 Mark or 0 for each)***	**6**		
8. Documented the observations	**2**		
9. Properly disposed wastes and stored apparatus and equipment. • Kept the microscope with the low power objective lens in line with the eye piece lens • Cleaned and kept the apparatus • Cleaned the table and properly disposed off the specimens • Cleaned the hands before leaving the lab. ***(Award 1 Mark or 0 for each)***	**4**		
Sub-Total:	**12**		

GRAND TOTAL	**66**		

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**

_____ _____