

051106T4APB

APPLIED BIOLOGY LEVEL 6

APB/OS/AB/CR/01/6

Carry Out Cytological and Histological Techniques

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 & 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: Prepare Solutions for Histological Techniques			
1. Wore PPEs • Gloves • Closed flat shoes • Face mask • Lab coat <i>Award 1 mark each</i>	4		
2. Prepared 95% and 75% ethanol • 95% - measured 5 ml of water; added 95 ml of ethanol • 75% - measured 25 ml of water; added 75 ml of ethanol <i>Award 2 marks for each</i>			
3. Prepared Acid-alcohol • Prepared 70% ethanol (30mL water + 70mL ethanol) • Added a 2 drops 1% HCL to 50 mL of 70% alcohol • Labelled the solution <i>Award 2 marks for each</i>	6		
Sub-total 1	14		

TASK 2: Stain Sectioned Histological Tissues with Hematoxylin and Eosin (H&E)			
1. Labelled the microscope slides with name and type of tissue <i>Award 1 mark or zero</i>	1		
2. Removed paraffin from the sections (De-paraffinization) - Placed the slide with tissue section in a staining dish/coplin jar (or 50 mL beaker) containing Xylene for five minutes - Repeated the same procedure for about five minutes <i>Award 2 marks for each step</i>	4		
3. Re-hydrated the cells. Transferred t slides through series of decreasing concentrations of ethanol 100% ethanol – 3 minutes 95% ethanol – 3 minutes 70% ethanol - 3 minutes <i>Award 2 marks for each step</i>			
4. Rinsed the slides in distilled water - Placed distilled water in a beaker - Placed the slide with sections in the water for 3 minutes <i>Award 1 mark each</i>	2		
5. Stained tissues sections (Hematoxylin) Immersed the hydrated slides in hematoxylin stain for 10	6		

ii. Rinsed the slides thoroughly in distilled water for about 2 minutes to remove excess hematoxylin iii. Dipped the slides for 10 seconds in acid-alcohol solution to remove excess hematoxylin iv. Rinsed the slides in distilled water for 1 minute to stop the differentiation process v. Immersed the slides in bluing solution until the nuclei appear distinctly blue vi. Rinsed the slides thoroughly in distilled water for about 1 minute <i>Award 1 mark each</i>			
6. Stained tissue sections (Eosin Stain i. Immersed the slides in the Eosin Y stain for 10 minutes <i>Award 1 mark</i> ii. Dehydrate the stained tissue sections by passing them through an increasing series of ethanol concentrations • 70% Ethanol: 2 minutes • 95% Ethanol: 2 minutes (two changes) • 100% Ethanol: 2 minutes (two changes) <i>Award 2 mark each</i>			

iii. Cleared the slides, i.e., immersed the slides in xylene for 5 minutes <i>Award 1 mark</i> iv. Repeat step (iii) with fresh xylene for 5 minutes <i>Award 1 mark</i>			
7. Mount the specimen i. Placed a small drop of mounting media onto the stained tissue section ii. Carefully lowered the coverslip onto the mounting medium at an angle to avoid trapping air bubbles <i>Award 1 mark each</i>	2		
8. Allowed the mounted slides to dry slide warmer at room temperature <i>Award 2 marks</i>			
Sub-Total 1	32		
GRAND TOTAL	46		
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 _____

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