

073206T4CEN

CIVIL ENGINEERING LEVEL 6

CON/OS/CET/CR/01/6/A

Conduct Material Testing

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: <i>Please award marks as appropriate. Give a brief comment on your observation.</i>	Marks Available	Marks Obtained	Comments
TASK 1: Sieve The Provided Sample.			
1. Wore PPE'S (Overall ,Safety boots, Gloves) <i>(Award 3 marks or zero)</i>	3		
2. Observed environmental safety i. Safe use of tools and equipme • AIV Apparatus <i>(Award 1 mark or zero)</i> • Tamping rod <i>(Award 1 marks or zero)</i> ii. Proper bench arrangement <i>(Award 2 marks for proper bench arrangement or zero)</i>	1 1 2		
3. Sieved sample through sieve 20mm <i>(Award 3 marks or zero)</i>	3		
Sub-Total 1	10		
TASK 2: Perform Aggregate Impact Value (AIV) Test On Three Samples			
4. Fixed sample cup on the AIV frame <i>(Award 2 marks or zero)</i>	2		
5. Filled the cup with aggregate to overflow • Sample 1			

(Award 2 marks or zero) • Sample 2 (Award 2 marks or zero) • Sample 3 (Award 2 marks or zero)	2		
6. Tamped the aggregate 25 strokes with tamping rod. • Sample 1 (Award 3 marks or zero) • Sample 2 (Award 3 marks or zero) • Sample 3 (Award 3 marks or zero)	3		
7. Levelled surface by rolling the tam over the cup. (Award 1mark for each sample 1x3=	3		
8. Removed projecting particles (Award 1mark for each sample 1x3=3marks) 9. Filled depressions by hand. (Award 1mark for each sample 1x3=3marks)	3		
10. Applied 15 blows of the AIV hammer on the aggregate surface • Sample 1 (Award 3 marks or zero) • Sample 2 (Award 3 marks or zero) • Sample 3 (Award 3 marks or zero)	3		
11. Removed the cup and placed the sample in a clean tray			

(Award 1mark for each sample 1x3=3marks)	3		
12. Brushed the cup into the tray (Award 1mark for each sample 1x3=3marks)	3		
13. Took the weight of the sample(m1) • Sample 1 (Award 3 marks or zero) • Sample 2 (Award 3 marks or zero) • Sample 3 (Award 3 marks or zero)	3 3 3		
14. Sieved the sample on sieve 2.36mm • Sample 1 (Award 2 marks or zero) • Sample 2 (Award 2 marks • Sample 3 (Award 2 marks	2 2 2		
15. Weighed the material retained on sieve 2.36mm (m2) • Sample 1 (Award 3 marks or zero) • Sample 2 (Award 3 marks or zero) • Sample 3 (Award 3 marks or zero)	3 3 3		
Sub-Total 2	62		
TASK 3: Calculate The Aggregate Impact Value (AIV) Value.			
16. Calculated material passing the sieve (m1-m2) • Sample 1			

(Award 2 marks or zero) • Sample 2 (Award 2 marks or zero) • Sample 3 (Award 2 marks or zero)	2		
17. Calculated the AIV value $AIV = \left(\frac{m_1 - m_2}{m_1} \right)$ (Award 2 marks for correct formula) • Sample 1 (AIV 1) (Award 2 marks for correct calculation) • Sample 2 (AIV 2) (Award 2 marks for correct calculation) • Sample 3 (AIV 3) (Award 2 marks for correct calc	2 2 2 2		
18. Calculated the average AIV value (Award 4 marks for correct calculation)	4		
Sub-Total 3	18		
GRAND TOTAL	90		
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
_____	_____