071906T4AEN
Agricultural Engineering Level 6
ENG/OS/AGR/CR/01/6/A
Operate Agricultural and Related Production Machinery and Equipment
July /Aug 2023

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

PRACTICAL ASSESSMENT

INSTRUCTIONS TO THE ASSESSOR

1. You are required to mark the practical as the candidate performs the tasks.
2. You are required to take video clips at critical points.
   Ensure the candidate has an identification tag pinned at the back and front near the shoulders showing Candidate's name and registration code

This paper consists of (5) printed pages
Candidates should check the question paper to ascertain that all pages are printed as indicated and that no questions are missing

OBSERVATION CHECKLIST

Candidate's Name			
Candidate's Registration Code			
Assessor's Name			
Assessor's 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**
1. Wore the appropriate PPEs (Overall and safety boots) ***(Award 1 mark for each PPE worn or zero maximum 2 marks)***	**2**		
2. Assembly of tools and materials. ***(Award 2 marks or zero maximum 2 marks)***	**2**		
3. Carried out general inspection of the drill components • Delivery tubes • Hoppers • Seed metering mechanism • Land wheel • Chain drive ***(Award 1 mark or zero maximum 1 marks)***	**1**		

4. Serviced the seed drill/ planter • Cleaned the implement • Identified greasing points • Greased moving parts (chains, sprockets and bearings) • Tightened bolts and nuts • Checked chain tension • Appropriately used the tools ***(Award 2 marks for each activity maximum 12 marks)***	**12**		
5. Jacked up drive wheels and putting on safety stands **(Award 1 mark for each step or zero)**	**2**		
6. Checked the functionality of the metering mechanism ***(Award 2 marks or zero)***	**2**		
7. Measured land wheel diameter ***(Award 1 mark or zero)***	**1**		
8. Calculated wheel circumference $C = \pi d$ ***(Award 2 marks for correct calculation or zero)***	**2**		
9. Measured the width of the drill (W) = Number of furrow openers x spacing between furrow openers ***(Award 2 marks for correct width or zero)***	**2**		

10. Determined number of wheel turns (N) required to plant a pre-determined length i.e 100 m $N = \frac{Length}{wheel\ Circumference}$ ***(Award 2 marks for correct N or zero)***	**2**		
11. Added seeds into the hoppers ***(Award 1 mark or zero)***	**1**		
12. Set up sowing rate adjustment lever at a given open position ***(Award 2 marks or zero)***	**2**		
13. Placed carrier bags at the bottom of the seed tubes and tied (**Award 2 marks or zero)**	**2**		
14. Put chalk mark on the land wheel coinciding with another mark on the ground to determine starting and stopping point for each revolution ***(Award 1 mark for each chalk mark maximum 2marks or zero)***	**2**		
15. Turned the ground wheels through the determined number of revolutions (N) to sow the assumed area (length x width) ***(Award 4 marks or zero for turning to the calculated turns and 2 mark for accuracy maximum 6 marks)***	**6**		
16. Weighed the seeds collected in the carrier bags ***(Award 2 marks or zero)***	**2**		

17. Carried out necessary calculation to determine the sowing rate Sowing rate =amount of seeds collected in kg / Area in Hectares (**Award 4 marks or zero)**	**4**		
18. Compared if sowing rate was acceptable compared to machine operation manual if not made necessary adjustments. ***(Award 2 marks or zero)***	**2**		
19. Observed safety during the exercise ***(Award 1 mark or zero)***	**1**		
Grand Total	**50**		

ASSESSMENT OUTCOME

The candidate was found to be:

Competent ☐ Not yet competent ☐

(Please tick as appropriate)

(The candidate is competent if s/he gets at least 50%)

Feedback from candidate:

Feedback to candidate:

Candidate's Signature **Date**

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Assessor's Signature **Date**

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