071305T4ELC

ELECTRONICS ENGINEERING LEVEL 5

ENG/OS/ET/CR/05/5/A

Maintain Radio Frequency Systems

March/April2025

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**
1. Wore Personal Protective Equipment i. Dustcoat/Overall *(Award 1 or 0)* ii. Safety boots *(Award 1 or 0)* iii. *Safety glasses (Award 1 or 0)*	 1 1 1		
2. Applied good housekeeping practice i. Ensured clean working area before beginning working. *(Award 1 or 0)* ii. Tidy working area arrangement *(Award 1 or 0)* iii. Proper Waste disposal *(Award 1 or 0)*	 1 1 1		
Sub total	**6**		
CHECKLIST			
TASK 1–Maintenance Check List			
3. Prepared a maintenance checklist i. Equipment identification – System name *(Award 2 or 0)* ii. Responsible person *(Award 2 or 0)* iii. Inspection tasks to be performed *(Award 2 or 0)* iv. List of maintenance tasks to be	 2 2 2 2		

performed*(Award 2 or 0)* v. Tools and materials required *(Award 2 or 0)* vi. Notes, comments and/or remarks *(Award 2 or 0)*	2 2		
Sub Total	**12**		
TASK 2 – Tools, Equipment and Materials			
4. Prepared a list of maintenance tools, equipment and materials: i. Cable stripper *(Award 1 or 0 marks)* ii. Multimeter *(Award 1 or 0 marks)* iii. Soldering gun *(Award 1 or 0 marks)* iv. Soldering iron *(Award 1 or 0)* v. Power supply *(Award 1 or 0 marks)* vi. Electronics contact cleaner*(Award 1 or 0 marks)* vii. Brush*(Award 1 or 0 marks)*	 1 1 1 1 1 1 1		
Sub Total	**7**		
TASK 3 - Repair and maintenance activities			
5. Performed repair and maintenance activities: i. Corrected a short circuit *(10 or 0 marks)* ii. Corrected an open circuit on one side of the diode *(10 or 0 marks)* iii. Identified polarity issues on the LED and corrected*(5 or 0 marks)*	 10 10 5		
Sub total	**25**		
TASK 4 - Testing and Operation			

6. Tested the functionality of the circuit: i. Continuity test *(Award 2 marks if done correctly, zero otherwise)* ii. Polarity test *(Award 2 marks if done correctly, zero otherwise)* iii. When an object is placed in front of the system, the LED light up. (*Award* 10 *or* 0 *marks*)	2 2 10		
Sub Total	**14**		
TASK 5–Maintenance Report			
7. Prepared a Maintenance report which contained: i. Equipment identification - name of the equipment that was maintained. *(Award 2 marks if indicated, otherwise zero)* ii. Date and time of maintenance *(Award 2 marks if indicated, otherwise zero)* iii. Maintenance tasks performed *(Award 2 marks if enumerated, otherwise zero)* iv. Maintenance Personnel who performed the maintenance tasks. *(Award 2 marks if indicated, otherwise zero)* v. Tools and materials used to perform the maintenance tasks.	2 2 2 2		

(Award 2 marks if indicated, otherwise zero)	2		
vi. Parts Replaced during the maintenance activities. *(Award 2 marks if indicated, otherwise zero)*	2		
vii. Observations and Findings made *(Award 2 marks if indicated, otherwise zero)*	2		
viii. Signature and date *(Award 1 marks if indicated, otherwise zero)*	2		
Sub - Total	**16**		
GRAND TOTAL	**80**		
$\frac{x}{80} \times 100$	**100**		

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** _____

NB: This page is for the verifier only

APPENDIX 1:

Tools and equipment to be provided to the student on request

APPENDIX 2: Pre installed circuit

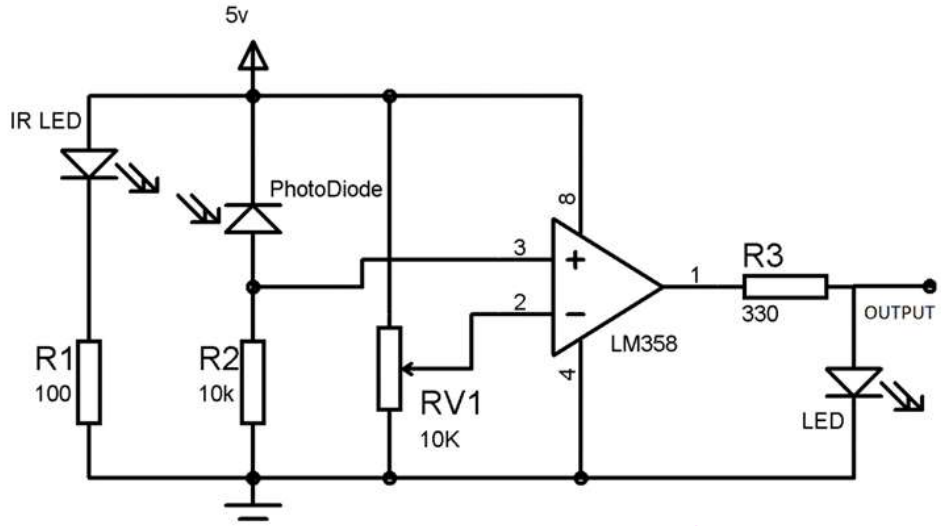

Figure 1

APPENDIX 2:

Introduce the following faults in the circuit:

i. Short circuit
ii. Open circuit
iii. Use a damaged resistor for R_2
iv. Create a loose connection on one side of the photo diode.

NB: The IR led and the photo diode must be in close proximity.

THIS IS THE LAST PRINTED PAGE