

072106T4FTC

FOOD TECHNOLOGY LEVEL 6

FOP/OS/FT/CR/01/6/A

Manage Quality of Food Products

July/August 2025



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

PRACTICAL ASSESSMENT

TIME: 4 HOURS

INSTRUCTIONS TO CANDIDATE:

1. The paper consists of **three** tasks.
2. You are required to perform the tasks as guided.
3. You will be provided with answer booklet on which to write.
4. Any written work should be submitted to the assessor at the end of the session.

5. You will be provided with the following resources:

- DCPIP Solution (0.1% w/v)
- Ascorbic acid
- Fresh lemons
- Distilled water
- Strainer
- Volumetric flask (100 mL)
- Burette (50 mL)
- Pipette (10 mL)
- Conical flask (250 mL)
- Stand and clamp
- White tile
- Digital weighing balance (0-300g)

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TASK 1:

Prepare the lemon fruits, extract the juice and prepare 100 mL solution of a 10% v/v lemon extract as per the standard sampling procedure

TASK 2:

Prepare 100mL solution of 1% w/v pure ascorbic acid as per the standard laboratory reagent preparation procedure.

TASK 3:

Determine the concentration of vitamin C (Ascorbic acid) in the prepared lemon juice extract by titration.

Procedure

1. Put 10 ml of 0.1% DCPIP solution in a conical flask
2. Titrate with the pure ascorbic acid (1%w/v) solution until the blue colour permanently disappears
3. Record the titre value in the table below

	1	2	3
Final burette reading			
Initial burette reading			
Volume of Ascorbic acid			

4. Perform two more titrations and record the values
5. Obtain the average titre and record it as **T_s**
6. Fill the burette with the lemon juice extract.
7. Pipette 10 mL of 0.1% DCPIP solution into a conical flask.
8. Titrate the lemon juice drop wise into the flask while swirling.
9. Stop when the blue colour disappears permanently.
10. Record the volume of lemon juice used.
11. Repeat the titration three times and record in the following table.

	1	2	3
Final burette reading			
Initial burette reading			
Volume of lemon extract			

12. Compute the average value of the titre and record it as **T_A**
13. Calculate the concentration of vitamin C in the juice extract using the values of **T_A** and **T_s**.

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