



FOP – Fruits and Vegetables Processing Technology
T010

Thursday, 22/7/2021

08:30 – 11:30 AM

Names

Index number

TVET NATIONAL EXAMINATION, RTQF LEVEL 5, 2020-2021

QUESTIONS and ANSWERS BOOKLET

OPTION/TRADE: **FOOD PROCESSING**

SUBJECT: Fruits and Vegetables Processing Technology

ACADEMIC YEAR: **2020-2021**

Read carefully the instructions on page (i) & (ii).

FOR EXAMINER'S USE ONLY

[illegible]



TVET NATIONAL EXAMINATION, RTQF LEVEL 5, 2020-2021

INSTRUCTIONS TO CANDIDATES: PART I (Answer Booklet)

1. A candidate should fill in the actual names and the index number on the cover of this questions and answer booklet on the provided place (Black Box).
2. It is illegal for a candidate to write any of his/her names, index number or a school name inside the answer booklet.
3. A candidate should check if all pages of the answer booklet are complete. No candidate should remove or tear any pages or part of it from the answer booklet.
4. A candidate should answer in the language in which the examination is set. (See page **(ii)**)
5. A candidate should sign on the sitting plan when submitting the answer booklet. He/she has also to check if the answer booklet is well sealed.
6. No extra paper is allowed in the examinations room. If a candidate is caught with it his/her results will be nullified.
7. No candidate is allowed to write answers not related to the subject being sat for, otherwise it will be considered as a cheating case.
8. Write your answers on the 12 lined pages (From page 1 of 12 to page 12 of 12).
9. Use the last non-lined pages as draft.
10. Results for any candidate who is caught in examination malpractices are nullified. The cheating can be recognized during examinations administration, marking exercise or even thereafter.

TVET NATIONAL EXAMINATION, RTQF LEVEL 5, 2020-2021

OPTION/TRADE: FOOD PROCESSING

SUBJECT: Fruits and Vegetables Processing Technology

DURATION: 3 hours

INSTRUCTIONS TO CANDIDATES: PART II (Question paper)

The paper is composed of two (2) main Sections as follows:

Section I: Attempt all the Twelve (12) questions (60 marks)

Section II: Attempt any Four (4) questions out of Six (6) (40 marks)

Allowed materials:

- Ruler and square
- Calculator

Note:

Every candidate is required to carefully comply with the provided assessment instructions.

Section I: Attempt all the Twelve (12) questions **(60 marks)**

- 01. a)** What is the purpose of washing fruits and vegetables?
- b)** What are the washing techniques of fruits and vegetables? **(5marks)**
- 02.** Explain biological and mechanical factors that can lead to fruits and vegetables deterioration. **(5marks)**
- 03.** What are the methods of peeling fruits and vegetables in juice making? **(5marks)**
- 04.** Outline ten (10) general characteristics of a good packaging material for juice products. **(5marks)**
- 05.** Write and explain clearly chemical formula of respiration. **(5marks)**
- 06.** End-determination is the main activity which indicates that the jam is ready to be removed on the fire, illustrate techniques that may be helpful for the following tests. **(5marks)**
- a)** Drop test
- b)** Weighing test
- 07.** Give the function of the following tools and equipment used during juice making. **(5marks)**
- a.** Juicer
- b.** Blender
- c.** Pasteurizer
- d.** Slicers
- e.** Compressor

08. a) This section focuses on tomato varieties cultivated in our country.

There are four varieties of tomato on column A and different characteristics for those varieties on column B. Copy the table and write the correct letter from column B corresponding to each number from column A in column of answer given:

(2marks)

Answer	Tomato variety (A)	Characteristics (B)
.....	1.Beef steak tomatoes	A. Resembling meat, red and yellow colour, pear shaped and oblong tomato with heavy size.
.....	2. Cherry tomatoes	B. They contain some acid in their sweetness and must be cooked to the right consistency
.....	3. Roma tomatoes	C. They range from being spherical to slightly oblong in shape
.....	4. Salad tomatoes	D. It is a meat tomato with colour tend red to pale yellow to purple black which is spherical in shape or tend to be kidney bean shape

b) Give the sorting parameters of tomato used for making tomato paste and ketchup.

(3marks)

- 09.** Outline and explain five (5) main styles of wine. **(5marks)**
- 10. a)** What are the key effects of high-pressure homogenization on ketchup making? **(3marks)**
- b)** Give two (2) preservatives used during making tomato paste and their respective roles. **(2marks)**
- 11.** Differentiate the following types of wines: **(5marks)**
- a.** Dry wine
 - b.** Semi sweet wine
 - c.** Sweet wine
- 12.** Outline the roles of the following ingredients used in jam conditioning. **(5marks)**
- a)** Pectin
 - b)** Citric acid
 - c)** Potassium sorbate
 - d)** Sugar.

Section II: Attempt any Four (4) questions out of Six (6) (40 marks)

13. Explain the following terminologies as applied in tropical wine making:
- a) Racking
 - b) Fining
 - c) Sugar caramelization
 - d) Ageing
 - e) Wine Clarification and Stabilization.
- (10marks)**
14. Discuss the following techniques of clarification of juice:
- a. Filtration
 - b. Centrifugation
 - c. Decantation
15. a) Differentiate applied labeling from direct labeling. **(4marks)**
- b) Which information must be present on a label of pre-packed juice? **(6marks)**
16. a) Discuss the effects of the following physiological factors on stored fruits used in juice making:
- i. Respiration. **(2.5marks)**
 - ii. Transpiration. **(2.5marks)**
- b) What are the factors that influence respiration rate of fruits and vegetables? **(5marks)**
17. Explain all steps and ingredient needed in making tomato paste. **(10marks)**
18. Tropical wine processing is either cleaned-in-place (CIP) or cleaned-out-of-place (COP).
- a) Differentiate the two (2) techniques of cleaning
 - b) Provide any five (5) functions of water in cleaning. **(10marks)**

