



**NATIONAL EXAMINATION  
AND SCHOOL INSPECTION  
AUTHORITY**

**FOP – Tofu technology and  
Soymilk processing  
T014  
Wednesday, 28/7/2021  
08:30 – 11:30 AM**

**Names:**

Index number

**TVET NATIONAL EXAMINATION, RTOF LEVEL 5, 2020-2021**

## QUESTIONS and ANSWERS BOOKLET

OPTION /TRADE: **FOOD PROCESSING**

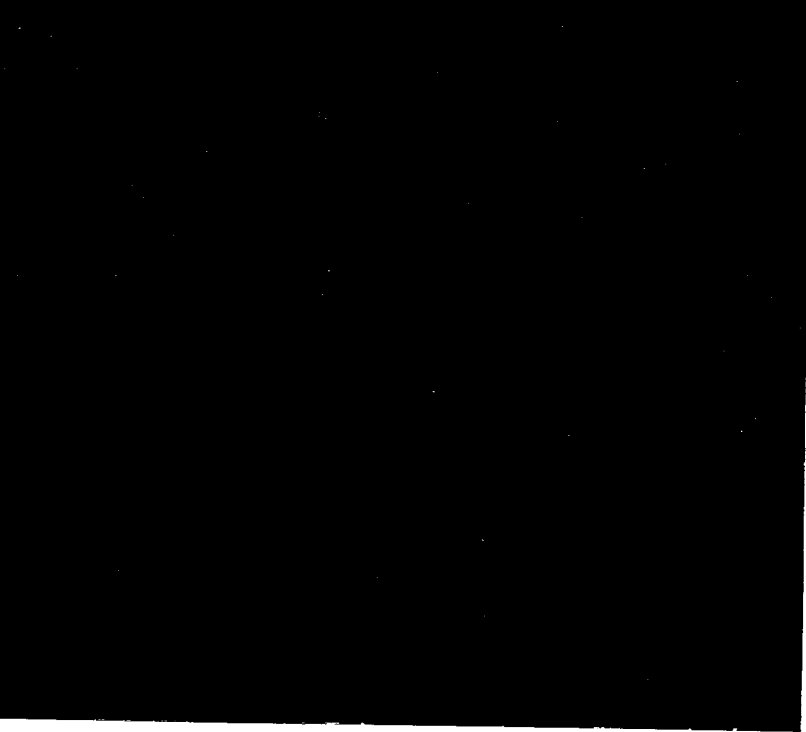
**SUBJECT: Tofu technology and Soymilk processing**

**ACADEMIC YEAR: 2020-2021**

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NESA 2021 NESA 2021 NESA 2021 NESA 2021 NESA 2021

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# **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: Tofu technology and Soymilk processing**

**DURATION: 3 hours**

**INSTRUCTIONS TO CANDIDATES: PART II**

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)** How is curdling process done in tofu manufacturing industry?

**5 marks**

**(02)** Mention any five (5) factors that influence the texture and flavor of the tofu.

**5 marks**

**(03)** Discuss chemical extraction procedure in soy oil processing technology.

**5 marks**

**(04)** Explain the role of homogenization in soy milk making.

**5 marks**

**(05)** Discuss the purpose of the following tests in soy oil refining.

a) Determination of saponification value

b) Determination of Iodine value

**5 marks**

**(06)** Describe disadvantages of the following methods of soy oil extraction.

a) Solvent extraction

b) Mechanical pressing

**5 marks**

**(07)** Discuss how pressing phase is conducted and explain its functional role in tofu processing.

**5 marks**

- (08) Discuss the effect of sprouting of soybean on the chemical composition and quality of soymilk and tofu. **5 marks**
- (09) Mention the purpose of soaking soy bean in soy milk production. **5 marks**
- (10) Outline packaging materials used and condition of storage soy oil in order to prevent its deterioration. **5 marks**
- (11) Discuss mechanical extraction procedure in soy oil processing technology. **5 marks**
- (12) Discuss how soaking phase is conducted and explain its functional role in tofu processing. **5 marks**

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

- (13) Suppose you are tofu processor, explain to your village member how to prepare tofu to avoid stunting for younger children. Mention the procedure, specific amount and working conditions such as amount of soy bean, water, coagulant, heating temperature, cooling time, coagulant type. **10 marks**
- (14) As food technologist in soy milk processing company, outline procedures of soy milk manufacturing. **10 marks**
- (15) The processing of soybeans into soymilk is aimed at gaining consumer acceptance of the legume by removal of undesirable smell and also improving organoleptic qualities of soymilk. Explain how can eliminate off flavors in soymilk processing industry. **10 marks**
- (16) Explain the required safety conditions that should be considered in production of safe tofu product meeting the safety requirements of Rwanda Standards Board. **10 marks**
- (17) Briefly explain why soy oil is so important for the consumer's health through the raw materials (soy beans) from which it is used in food preparation. **10 marks**

**(18)** a) State any three (3) factors that should be taken into account when determining the concentration of coagulant in tofu preparation.

**6 marks**

b) State any four (4) examples of coagulants which may be used in tofu making.

**4 marks**





