



FACULTY	AGRICULTURE, ENGINEERING AND NATURAL SCIENCES		
SCHOOL	AGRICULTURE AND FISHERIES SCIENCES		
DEPARTMENT	FOOD SCIENCE AND SYSTEMS		
SUBJECT	FOOD PROCESSING TECHNOLOGY		
SUBJECT CODE	AFSC 3791		
DATE	JUNE 2024		
DURATION	3 HOURS	MARKS	100

FIRST OPPORTUNITY EXAMINATION

Examiner: **Mr. C. Samundengu**

Internal Moderator: **Dr S.C. Barrion**

External Moderator:

This question paper consists of **two (2)** pages excluding this front page.

Instructions:

- **Answer all five (5) questions**

QUESTION 1

- a) Briefly discuss the following as hurdles to local value addition:
- i) Size of local market [3]
 - ii) Inadequate research and development [3]
 - iii) Trade-related barriers [3]
 - iv) Policy and related incentives [3]
- b) Describe how value chain analysis can be used to make the cowpea value chain in Namibia more competitive. [6]
- c) Consider a process that produces fruit pulp. Identify and analyse four (4) food safety hazards that could be associated with the process. [8]

QUESTION 2

- a) Briefly discuss colour as an important quality characteristic in food processing. [8]
- b) With the aid of an example, illustrate how hurdle technology can be applied synergistically resulting in improvement of product quality and economic property. [8]
- c) Using wheat flour as an example, briefly discuss the grading of food products. [7]

QUESTION 3

- a) It is required to produce an ultra-fine powder from an indigenous tuber. Discuss the size reduction operational mode that would be most suitable. [8]
- b) Apart from increasing stability of an emulsions, outline four (4) other benefits that can be associated with emulsifying or homogenising. [8]
- c) Outline four (4) novel peeling methods that have been applied to fruits and vegetables. [4]

QUESTION 4

- a) It is important that dried vegetables to be incorporated in a dry soup powder have a high rehydration rate. Discuss how this can be ensured in a drying process. [5]
- b) With the aid of a labelled sketch, describe the operation of a double drum, contact drier used to produce milk powder. [7]
- c) Draw a flow diagram for a typical commercial extrusion process that produces expanded snacks. [7]

QUESTION 5

a) Discuss the Ultra High Temperature process used to sterilise food products. [6]

b) A product may experience deterioration in sensory characteristics in cold storage.

Outline six (6) ways in which this could happen. [6]

END OF EXAMINATION