



GWANDA STATE UNIVERSITY
FACULTY OF LIFE SCIENCES
DEPARTMENT OF CROP SCIENCE
BACHELOR OF SCIENCE HONOURS DEGREE IN ANIMAL SCIENCE
LCS LSC4115 CROP PRODCUT PROCESSING
FIRST SEMESTER FINAL EXAMINATION PAPER

FEBRUARY 2022

This examination paper consists of 3 pages, inclusive of cover page

Time Allowed: 3 hours
Total Marks: 100
Special Requirements: None
Examiner's Name: MR J.DUBE

INSTRUCTIONS

1. Answer **ALL** questions in Section A
2. Answer **ONLY THREE** questions in Section B

MARK ALLOCATION

QUESTION	MARKS
SECTION A	40
SECTION B	60
TOTAL ATTAINABLE MARKS	100

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SECTION A: ANSWER ALL QUESTIONS

(40 marks)

Question 1

:
Examine the following three ways of preventing problems in stored grains:

- i. Sanitation (2)
 - ii. Protection (2)
 - iii. Inspection (2)
- a. Outline the importance of the following practices in crop product processing:
- i. Preservation (5)
 - ii. Processing (5)
 - iii. Storage (5)
3. a) Examine the following processes are conducted in crop product processing
- i. Extrusion (4)
 - ii. Blanching and its importance (5)
- b. As an Agricultural and Extension Officer in Filabusi identify any five factors leading to post harvest losses in cereal grain production and prescribe solutions for adoption by the local farmers to mitigate them. (10)

SECTION B

Answer any three questions. Each question carries 20 marks.

Question 2

- a) Describe sugar processing from the time the cane plant is harvested until packaging and ready for the market. (8)
- b) Discuss the functions of packaging in fruit and vegetables (12)

Question 3.

- a) Outline the internal factors within the value chain leading to post harvest losses and prescribe solutions to each factor. (10)
- b) Describe any three problematic grain storage pests and their control. (6)

- c) Distinguish between cooling and freezing in crop product-processing. (4)

Question 4

- a) Describe the processes involved in wheat processing (10)
- b) Discuss food fortification under the following sub headings.
- i. Dry-dry mixing (4)
- ii. Dry-liquid mixing (4)
- c. List any two factors essential for successful fumigation. (2)

Question 5

- a) Suppose you have been invited as a technical manager to advise the new prospective investor on siting a new fruit and vegetable processing plant, outline the five factors that you would suggest be considered for its location. (10)
- b) Identify factors that should be considered in the design, construction and utilization of a maize crib. (8)
- c) Distinguish between cooling and freezing (2)

Question 6

- a) Outline steps in processing of dried chips and flour (10)
- b) Research has shown that fumigation failure is usually high in most storage cereal crops. Suggest possible causes to fumigation failures. (10)

Question 7

- a) Examine the preservation of vegetables under the under the following sub-headings:
- i. Preservation by concentration (5)
- ii Heat preservation (5)
- b) Discuss post harvesting handling practices in Sweet potatoes. (10)