

# GWANDA STATE UNIVERSITY



FACULTY OF LIFE SCIENCES

DEPARTMENT OF ANIMAL SCIENCES

BACHELOR OF SCIENCE HONOURS DEGREE IN ANIMAL SCIENCE

Animal Products Processing

LAS4112

Final Examination

November 2019

This examination paper consists of 3 pages

**Time Allowed:** 3 hours

**Total Marks:** 100

**Special Requirements:** None

**Examiner's Name:** Moyo S

## INSTRUCTIONS

1. Answer **all** questions in Section A
2. Answer **only Two** questions in Section B

## MARK ALLOCATION

QUESTION	MARKS
SECTION A	60
SECTION B	40
<b>TOTAL ATTAINABLE MARKS</b>	<b>100</b>

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**SECTION A:** ~~a~~ Answer ALL questions in this section

**QUESTION 1**

- a) Explain the following terms as they are used in Animal Product and Processing:
- i. Myofilaments; [2]
  - ii. Hypertrophy; [2]
  - iii. Myoglobin; [2]
  - iv. Rigor mortis; and [2]
  - v. Exsanguination. [2]
- b) ~~Outline and e~~ Explain **three** important attributes that make industrial processing of eggs possible. [6]
- c) Discuss how pale, soft and exudative (PSE) and dark, firm and dry ~~Dry firm meat~~ develops in meat. [8]
- d) Packing in animal products and processing is imperative. Why? [3]
- e) Write short notes on the manufacturing process of leather. [10]

**QUESTION 2**

- a. Explain how the Haugh unit is determined in egg industry. [5]
- b. What is the purpose of a Hazard Analysis Critical Control Point (HACCP) system in the food processing plant? [5]

**QUESTION 3.**

Discuss the two religious slaughter methods (Haalal and Kosher/Shechita). [8]

**QUESTION 4**

Dark, firm and dry DFD meat is generally considered unattractive to the consumer, list any 5 causes of DFD that should be avoided in meat industry. [5]

**SECTION B:** [Answer](#) TWO questions

**QUESTION 5**

Write briefly on the significance of the following in milk industry:

- i. Somatic cell count; [5]
- ii. Total bacteria count; [and](#) [8]
- iii. Residues in milk. [7]

**QUESTION 6**

- a. Meat colour is significant to consumer acceptance of products. Discuss factors that affect meat colour and how discolouration can be prevented. [10]
- b. Discuss the factors that affect meat tenderness. [5]
- c. Discuss how would you assess fish spoilage. [5]

**QUESTION 7**

- a. Write detailed notes on the following topics:
  - i. Pasteurisation; [3]
  - ii. Sterilisation; [and](#) [3]
  - iii. Homogenised milk. [4]
- b. What is Ultimate pH and how does it influence meat quality? [10]

**QUESTION 8**

- a. Differentiate between ante-mortem inspections and post-mortem inspections? [4]
- b. What is the importance of conducting these inspections? [6]
- c. With the aid of a flow diagram, describe the process of slaughtering pigs in a commercial plant. [10]

**END OF EXAMINATION**