

GWANDA STATE UNIVERSITY



FACULTY OF LIFE SCIENCES

DEPARTMENT OF ANIMAL SCIENCE

BACHELOR OF SCIENCE HONOURS DEGREE IN ANIMAL SCIENCE

Introduction to Microbiology

LAS 1106

First Semester Final main Examination Paper

February 2022

This examination paper consists of 3 pages

Time Allowed: 3 hours
Total Marks: 100
Special Requirements: None
Examiner's Name: A. Banda

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
TOTAL ATTAINABLE MARKS	100

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SECTION A: ANSWER ALL QUESTIONS IN THIS SECTION

QUESTION 1

- a. List Koch's postulates. [4]
- b. Describe Louis Pasteur's contribution to Microbiology. [16]

QUESTION 2

- a. Explain three ways that fungi are like animals. [6]
- b. Describe three ways in which fungi function as mutualistic symbiont's and what benefit the fungi and the other organism receive from the partnership. [14]

QUESTION 3

Describe the decomposition of some of the major constituents of soil organic matter/plant residues under the following headings:

- (i) Cellulose decomposition [5]
- (ii) Hemicellulose decomposition [5]
- (iii) Chitin decomposition [5]
- (iv) Lignin decomposition. [5]

SECTION B ANSWER ONLY TWO QUESTIONS FROM THIS SECTION

QUESTION 4

Discuss on the impacts and prospects of Genetically Modified Organisms (GMOs) in Africa. [20]

QUESTION 5

- a. Describe the properties of bacterial cell wall. [5]

- b. Comment on the following microorganisms in food spoilage:
- (i) Yeasts [5]
 - (ii) Molds [5]
 - (iii) Bacteria. [5]

QUESTION 6

- a. List four microorganisms that are used in the production of certain foods. [4]
- b. Describe the role played in the formation of flavor, textures and other properties of specific foods by the above listed organisms. [16]

END OF EXAMINATION