

WOMEN'S UNIVERSITY IN AFRICA



Addressing gender disparity and fostering equity in University Education

FACULTY OF AGRICULTURAL SCIENCES

BSc AGRICULTURE HONOURS DEGREE IN ANIMAL SCIENCE

MAIN PAPER

AS: MICROBIOLOGY

INTAKE: SECOND YEAR SECOND SEMESTER

DATE: 2021

TIME:

INSTRUCTIONS TO CANDIDATES

Answer any **four** questions.

1. With the aid of a labelled diagram, distinguish between prokaryotic and eukaryotic cells [20]
2. a. Describe the four basic shapes in which bacteria exist [8]
b. i. Which class of microbes is generally referred to as the foundation for aquatic life? [2]
ii. Explain why the class of microbes in b(i) is regarded as the foundation for aquatic life and go on to write notes on the class of microbes [15]
3. Explain the following terms as applied to Microbiology;
a. Microbial culture [5]
b. Operations for obtaining a pure culture [5]
c. Aseptic techniques [5]
d. Thermal death time (TDT) [5]
e. Tyndallisation [5]
- 4 a. Compare and contrast pasteurization and tyndallisation as applied to microbiology [12]
b. Describe the use of a named disinfectant to control microorganisms in a real life situation of our choice [13]
5. Write a detailed essay on reproduction in a selected named microorganism of your choice [25]
6. Describe in detail the different forms of radiation that can be used for the control of microbial growth [25]

END

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SPECIAL PAPER

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Answer any **four** questions.

1. Explain the following:
 - i) Rumen microbes [6]
 - iii) Ionizing radiation [6]
 - iii) Methanogens [6]
 - iv) Prokaryotic cells [7]

2. Describe the following methods that can be used for virus detection and confirmation;
 - a. Serology [6]
 - b. Direction observation [6]
 - c. Nucleic acid based methods [6]
 - d. Cytopathology [7]

3. Write an essay on a named virus that infects animals under the following headings;
 - a. Characteristics [6]
 - b. Viral family [6]
 - c. Important genera [6]
 - d. Critical features [7]

4. Describe the process used for virus detection and characterization [25]

5. With the aid of specific examples, write an essay comparing protozoa and bacteria [25]

6. Describe the rumen microbial population and the conditions enabling their survival [25]

END