

**NATIONAL UNIVERSITY OF LESOTHO
FACULTY OF HEALTH SCIENCES**

FHS2303 - MICROBIOLOGY AND PARASITOLOGY

May 2023

Marks 100

Time 3 hours

INSTRUCTIONS:

1. The paper consists of 3 Sections
 2. Answer **ALL** questions in Section A and Section B
 3. Answer **Four** questions in section C
 4. **Answers written in pencil will not be marked**
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SECTION A

ANSWER ALL QUESTIONS: SECTION A CARRIES 20 MARKS

Question 1

Define the following medical terms

- a. Metabolism [2]
- b. Pure culture [2]
- c. Differentiation [2]
- d. Resolution [2]
- e. Opportunistic pathogens [2]

Question 2

[True or False].

- a. Psychrotolerant organisms can be isolated from food even after it has been refrigerated. [1]
- b. Mitochondria are derived from Mitosomes [1]
- c. Two different species of microorganisms living in close association form what is called a symbiotic relationship [1]
- d. Decontamination is adding microbes in the environment and healthcare equipment [1]
- e. Normal flora are microorganisms that are always pathogenic to humans [1]
- f. One of the complication of Listeriosis food infections is Meningitis [1]
- g. Virulence is the ability of the microorganism to cure diseases [1]
- h. Neutrophils are involved in phagocytosis when there is an infection [1]

- i. Cardinal temperatures are high temperatures required in the growth of most microorganism [1]
- j. Salmonellosis is a food infection caused by *Salmonella* [1]

SECTION B

ANSWER ALL QUESTIONS: SECTION B CARRIES 40 MARKS

Question 1

Explain the pathogenesis of *Staphylococcus aureus* [5]

Question 2

What is the importance of microorganisms in the Energy industries? [5]

Question 3

Discuss the factors contributing to the emergence of infectious diseases [5]

Question 4

Outline the growth characteristics of *Enterobacteriaceae* [5]

Question 5

Write the names of microorganisms that cause the following diseases or infections;

- a. Urinary tract infections
- b. Whooping cough
- c. Plague
- d. Candidiasis
- e. Tuberculosis

[5]

Question 6

How can the spread of hospital acquired infections be controlled? [5]

Question 7

What is the prevention and treatment of Cholera? [5]

Question 8

Discuss the Pathology of Listeriosis [5]

SECTION C

ANSWER FOUR QUESTIONS: SECTION C CARRIES 40 MARKS

Question 8

Briefly explain the concept of spontaneous generation and how Pasteur became an opponent to it. [10]

Question 9

Most viruses have their genetic make-up changed by a number of factors thus making viruses responsible for most pandemics globally.

Briefly describe the antigenic drift and antigenic shift in the Influenza virus [10]

Question 10

Write notes on the pathophysiology of tuberculosis [10]

Question 11

Microorganisms have both positive and negative impacts on human.

Explain this statement using the food industry as an example [10]

[NB: include names of microorganisms in your answer]

Question 12

The human body is exposed to microorganisms in the environment daily.

Mention parts of the body where normal flora grows and provide an example of **ONE** microorganism on each part [10]