

UNIVERSITY OF FORT HARE

MIC 211

EXAMINATIONS

May/June 2023

Time: 3 HOURS

Subject: INTRODUCTION TO MICROBIOLOGY

Marks: 100

This paper consists of 3 pages including cover page

Internal Examiner

Mr N Ntozonke and Dr Nontongana

Internal Examiner

Dr EG Ngwenya

Instructions

Answer all questions.

Question 1**20 marks**

- 1.1 Mention and discuss 3 scientific contributions made by Louis Pasteur and include years
(9 marks)
- 1.2 Discuss 'Germ Theory of Disease and the scientists involved in its discovery (7 marks)
- 1.3 Describe Koch's Postulates (4 marks)

Question 2**20 marks**

2.1 Prokaryotes may be classified following energy and carbon requirements. State the four major classifications using the subheading below as a guide. Give at least one example of a known prokaryote in each case. (15 marks)

- i Nutritional type
- ii Energy source
- iii Carbon source

2.2 Explain what growth factors are and give examples (5 marks)

Question 3**20 marks**

3.1, Discuss the 'Golden Age of Microbiology' and at least 5 scientists involved in its discovery (10 marks)

3.2 Describe the terms below: (10 marks)

- I. The cell envelope
- II. Flagella
- III. Plasmids
- IV. Capsules and slime layers
- V. Endospores

Question 4**20 marks**

4.1 How are viruses cultivated. (06 marks)

4.2 During the process of viral replication, a virus induces a living host cell to synthesize the essential components for the synthesis of new viral particles. List the steps that are involved in this cycle (14 marks)

Question 5

20 marks

- 5.1 Name and explain 3 physical and 2 chemical agents that are used to control the growth of microorganisms (10 marks)
- 5.2 What are the defense barriers of Innate or non-specific immunity? (08 marks)
- 5.3 What is the function of the immune system? (02 marks)

END