

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

EXAMINATION FOR THE AWARD OF DEGREE IN BACHELOR OF SCIENCE IN
MICROBIOLOGY AND BIOTECHNOLOGY

ZOOL 438: MEDICAL BACTERIOLOGY

STREAMS:

TIME:2 HOURS

DAY/DATE: THURSDAY 13/04/2023

11.30 A.M. –1.30 P.M.

INSTRUCTIONS

Answer all the questions in Section A and any two in section B.

SECTION A (30 MARKS)

1. a) Distinguish between bacteriostatic antibiotic and bactericidal antibiotic (2 marks)
- b) State two prevention and control measures of *Treponema pallidum* (2 marks)
- c) Explain the development of comedogenesis due to *Propionibacterium* Acne infection (2 marks)
2. a) Explain the pathogenesis of *Bordetella pertussis* (3 marks)
- b) Outline three virulence factors produced by *Listeria monocytogenes* (3 marks)
3. a) Explain three virulence factors produced by *Clostridium tetani* (3 marks)
- b) Draw a well labelled diagram of *Helicobacter pylori* (3 marks)
4. a) Explain three reasons why it is difficult to treat bacterial infections caused by gram negative bacteria (3 marks)
- b) Explain the pathogenesis of *Anthrax bacillus* (3 marks)
5. a) Describe the Kirby Bauer sensitivity testing method (3 marks)

b) Briefly explain, three modes of action of antibiotics (3 marks)

SECTION B: 40 MARKS

6. Describe the General characteristics, Pathogenesis and diagnosis of *Mycobacterium tuberculosis* (20 marks)

7. a) Describe the specific mechanisms of antimicrobial resistance (10 marks)

b) Using a diagram, explain how antibiotic resistance spreads (10 marks)

8. Explain the epidemiology, pathogenesis, clinical manifestations and treatment of *Vibrio cholerae* (20 marks)
