

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

SPECIAL/SUPPLEMENTARY EXAMINATIONS

**EXAMINATION FOR BACHELOR OF SCIENCE IN MEDICAL BIOCHEMISTRY
AND BACHELOR OF SCIENCE IN BIOMEDICAL SCIENCE**

BMET 334: MEDICAL BACTERIOLOGY & MYCOLOGY

STREAMS: BMET

TIME: 2 HOURS

DAY/DATE: FRIDAY 13/8/2021

8.30 A.M. – 10. 30 A.M.

INSTRUCTIONS

- (i) Answer Question ONE and any TWO questions**
- (ii) Do not write on the question paper**

QUESTION ONE (30 MARKS)

- (a) Discuss the use of the following methods in detection and identification of bacteria;
 - (i) CAMP test (3 Marks)
 - (ii) Optochin test (3 Marks)
 - (iii) Ziehl Neelsen staining method (3 Marks)
- (b) Discuss pathological effect of mycotoxins on human health. (8 Marks)
- (c) Using specific examples distinguish between differential and selective media used to culture bacteria. (6 Marks)
- (d) Minimum inhibition concentration (MIC) is used when accurate results are needed for clinical management of immunosuppressed patients. Describe experimental protocol for isolating *Helicobacter pylori* from patient and how to determine its MIC and MBC against ciprofloxacin tablet 500mg. (8 Marks)

QUESTION TWO (20 MARKS)

- (a) What are mycoses? (2 Marks)
- (b) Discuss pathogenesis and virulence of subcutaneous mycoses. (7 Marks)
- (c) *Candida albicans* are responsible for more mycotic illness and cause great variety of mycoses than any other species of fungi.
- (i) List the clinical features associated with candidiasis. (5 Marks)
- (ii) Explain how candidiasis can be diagnosed and treated. (6 Marks)

QUESTION THREE (20 MARKS)

Discuss *Helicobacter pylori* under the following headings;

- (a) Isolation and identification (6 Marks)
- (b) Virulence (6 Marks)
- (c) Pathogenesis (6 Marks)
- (d) Prevention (2 Marks)

QUESTION FOUR (20 MARKS)

- (a) List and describe all the disease conditions caused by *Aeromonas hydrophila*. (12 Marks)
- (b) In 1858, Louis Pasteur observed budding yeast cells in the vats of good wine and rod-shaped bacteria cells in vats with sour wine. Give biotechnological basis for this observation and explain two techniques he devised to preserve beer and wine. (8 Marks)
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