

CHUKA



UNIVERSITY

Knowledge is Wealth (*Sapientia divitia est*) Akili ni Mali

DEPARTMENT OF BIOLOGICAL SCIENCE UNIVERSITY EXAMINATION

BOTA 233: MYCOLOGY

TIME: 2 HOURS

INSTRUCTIONS:

- Answer all questions in section A and any **two** in section B
- Do not write anything on the question paper
- Use illustrations where appropriate to enhance your answer.

Section A (30 marks)

1. a) Describe the role of ergosterol in the fungal cell membrane. [3 marks]
b) Differentiate between septate and coenocytic hyphae. [2 marks]
2. a) Distinguish between mycelial strands and rhizomorphs. [2 marks]
b) Using illustration, describe the structure and function of appressorium. [3 marks]
3. List five environmental factors that influence fungal growth. [5 marks]
4. a) Give two reasons why *Saccharomyces cerevisiae* is widely used for recombinant DNA technology. [2 marks]
b) Discuss three factors that can compromise human health making them susceptible to fungal infections. [3 marks]
5. Highlight various factors that are considered in the classification of fungi. [5 marks]
6. Describe the general characteristics of Deuteromycota. [5 marks]

Section B (40 marks)

7. Discuss the economic importance of fungi in
 - i) Agriculture [10 marks]
 - ii) Industries. [10 marks]
8. a) Explain the different modes of fungal spore dispersal. [8 marks]
b) Describe the process of fermentation in yeast and its industrial applications. [12 marks]
9. a) Discuss any five fungal diseases affecting humans and their treatment. [10 marks]
b) Discuss any five types of mycotoxins. [10 marks]