



# Technical University of Mombasa

Faculty of Applied and Health Sciences

## DEPARTMENT OF PURE AND APPLIED SCIENCES

UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF  
TECHNOLOGY IN INDUSTRIAL MICROBIOLOGY AND BIOTECHNOLOGY  
BTMBT 12S (Y2 S1)

### AAB 4204: MYCOLOGY

SEMESTER EXAMINATION

DECEMBER 2013 SERIES

2 HOURS

Instructions to candidates:

This paper consist of **FIVE** questions

Answer question **ONE** (compulsory) and any other **TWO** questions

#### QUESTION ONE

- a) (i) Describe zygomycotina with respect to hyphae type, asexual and sexual reproduction **(7 marks)**
- (ii) Name the different forms of human mycoses **(4 marks)**
- b) (i) Outline the latest changes in the nomenclure of fungi **(3 marks)**
- (ii) Other than media for growth state other factors that affect the growth of fungi **(3 marks)**
- c) (i) Explain the use of mycorrhizal relationships by farmers to enhance growth of trees like eucalyptus **(4 marks)**
- (ii) Briefly describe the life cycle of basidiomycetes. **(6 marks)**

- (iii) Describe briefly asexual life cycle of Ascomycetes. **(3 marks)**

## QUESTION TWO

- a) Explain the storage of fungi through periodic transfer. **(7 marks)**
- b) (i) Describe the control of nematodes by use of some fungal species **(4 marks)**
- (ii) Identify fungal species used as mycofungicides to control plant diseases. **(4 marks)**
- (iii) Define chlamyospores **(1 mark)**
- (iv) Identify the source and explain with illustration the formation of chlamyospores. **(4 marks)**

## QUESTION THREE

- a) (i) Name the TWO types of plectenchyma typhae **(2 marks)**
- (ii) With example of fungal species; explain the formation of ascospores. **(4 marks)**
- (iii) Outline the production of non-motile spores in Zygomycotina **(7 marks)**
- b) (i) Define the term anastomosis **(1 mark)**
- (ii) Explain the crossing –over process in parasexual reproduction **(4 marks)**
- (iii) Name any TWO fungal species that undergo parasexual reproduction **(2 marks)**

## QUESTION FOUR

- a) (i) Describe physiological activities at the hyphal tip that lead to the formation of fungal cell wall **(6 marks)**
- (ii) Define the term Karyogamy **(1 mark)**
- (iii) Explain how temperature influences growth of fungi **(3 marks)**
- b) (i) Explain food digestion in the fungi ecosystem **(3 marks)**
- (ii) State the plant diseases caused by the following parasitic fungi **(2 marks)**

*Magranoportea oryzae*

*Cryphonectria parasitica*

- (iv) Explain causes of variation in fungal species **(5 marks)**

**QUESTION FIVE**

- a) (i) Define the term mycoses **(1 mark)**
- (ii) Describe the life cycle of asexually producing fungus **(4 marks)**
- (iii) State the reasons for rapid transport in fungal body and the evidence of such activities . **(3 marks)**
- b) (i) State the advantages of biocontrol as a method to reduce diseases in plants **(4 marks)**
- (ii) Explain the use of fungi as insecticides **(4 marks)**
- c) (i) Give reasons for use of fungi to solve genetic problems. **(3 marks)**
- (ii) Define the term endomycorrhiza **(1 mark)**