



# NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

DEPARTMENT OF APPLIED BIOLOGY AND BIOCHEMISTRY

MSc APPLIED MICROBIOLOGY AND BIOTECHNOLOGY

## **BASIC AND APPLIED MYCOLOGY SBB 5103**

MAY 2011

3 HOURS (100 MARKS)

### **INSTRUCTIONS**

Answer Four (4) Questions. Each question carries 25 marks. Where a question contains subdivisions, the mark value for each subdivision is given in brackets. Illustrate your answer where appropriate with large, clearly labelled diagrams

---

1. Discuss the impact of molecular techniques in the characterisation and identification of fungi.
2. Using specific examples and drawings where applicable, describe the major morphological features that are used to identify fungi belonging to the following groups;
  - (i) Zygomycotina (7 marks)
  - (ii) Ascomycotina (10 marks)
  - (iii) Basidiomycotina (8 marks)
3. Using specific examples, describe the role played by fungi in the food in biotechnology.
4. The Deuteromycotina is considered an “unnatural grouping and convenient pigeon hole” Discuss.
5. Write short notes on the following;
  - (i) Zoosporic spores (7 marks)
  - (ii) Sexual reproduction in fungi. (8 marks)
  - (iii) Fungal nutrition (10 marks)
- 6.(a) Using a clearly labelled diagram, describe the life cycle of *Puccinia graminis*. (10 marks)
- (b) Using specific examples, briefly discuss the negative effects of fungi. (15 marks)

**END OF EXAMINATION**

