



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE & TECHNOLOGY
SCHOOL OF BIOLOGICAL AND PHYSICAL SCIENCES
DEPARTMENT OF BIOLOGICAL SCIENCES
UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF
SCIENCE IN BIOLOGICAL SCIENCES
3RD YEAR 2ND SEMESTER 2016/2017 ACADEMIC YEAR
MAIN CAMPUS - REGULAR

COURSE CODE: SBI 3323
COURSE TITLE: MYCOLOGY I
EXAM VENUE: STREAM: (BIO)
DATE: EXAM SESSION:
TIME: 2 HOURS

Instructions:

- 1. Answer ALL questions in Section A and Any two questions in Section B**
 - 2. Candidates are advised not to write on question paper**
 - 3. Candidates must hand in their answer booklets to the invigilator while in the examination room**
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SECTION A: SHORT ANSWER QUESTIONS (30 MARKS)

1. Explain the different kinds of flagella occurring in fungi (3 marks)
2. Distinguish between two forms of vegetative reproduction in the fungal class *Myxomycetes* (2 marks)
3. Define the following terms used to describe different stages of the life cycle of the genus *Phytophthora*
 - (i) Reniform zoospores (2 marks)
 - (ii) Amphigynous sexual reproduction (2 marks)
4. Use a diagram to illustrate gametangial copulation in the fungal Division *Zygomycota* (3 marks)
5. State three possible causes of heterokaryosis in fungi (3 marks)
6. Distinguish between bipolar and tetrapolar heterothallism (4 marks)
7. List four economic importance of *Saccharomyces cerevisiae* (2 marks)
8. Explain three ways by which conidiophores are formed in Ascomycetes fungi (3 marks)
9. Explain the process by which the Division *Zygomycota* develop secondary mycelia (3 marks)
10. Use diagrams to distinguish between the different forms of Phragmobasidia in the Division *Basidiomycota* (3 marks)

SECTION B: ESSAY QUESTIONS (40 MARKS)

11. a) Describe antagonism between soil microbiota and fungi under the following sub-headings.
 - i) Exploitation (4 marks)
 - ii) Antibiosis (4 marks)
 - iii) Competition (4 Marks)b) Explain the characteristics which give fungi a favourable competitive ability in the soil (8 marks)
12. a) Discuss the mechanism of food sourcing by the following predacious fungi
 - i) Imperfect fungi (5 marks)

- ii) Zoopagales (5 marks)
- b) Use appropriate illustrations to explain the following forms of fungal parasites
 - i) Biotrophic fungi (5 marks)
 - ii) Necrotrophic fungi (5 marks)
- 13. Discuss the economic importance of fungi to human (20 marks)
- 14. Discuss the various forms of fungal diseases in humans (20 marks)