



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
4th YEAR FIRST SEMESTER 2016/2017 ACADEMIC YEAR
MAIN CAMPUS - REGULAR

COURSE CODE: SBI 3434

COURSE TITLE: ADVANCED MYCOLOGY

EXAM VENUE: BIO LAB

STREAM: (BSC BIO)

DATE: 16/12/16

EXAM SESSION: 9.00 – 11.00 AM

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 distinguishing characteristics of fungi under the following subheadings:
 - i) Cell wall composition (2 marks)
 - ii) Nuclear status (2 marks)
 - iii) Nutrition (2 marks)
2. Use a diagram to show the vertical section of an ascospore (3 marks)
3. State three differences between natural and synthetic media used in fungal spore culture preparations (3 marks)
4. Haploidization is a common occurrence in *Fungi Imperfecti* as an alternative to sexual reproduction. Explain how this process occurs. (3 marks)
5. State two adaptations of the marine fungi *Halosphaeriales* to its habitat (2 marks)
6. State four characteristics that give fungi a favorable competitive ability in an edaphic ecosystem (3 marks)
7. Give the benefits derived by the fungal partner in a lichen association (3 marks)
8. Distinguish between exploitation and antibiosis as observed in parasitic fungi (2 marks)
9. *Ambrosia* fungi form symbiotic associations with *Scolytid* beetles. Explain the nature of this association stating the benefits obtained by each partner. (3 marks)
10. Distinguish between necrotic and biotrophic fungi (2 marks)

SECTION B: ESSAY QUESTIONS (40 MARKS)

11. Describe the different categories of fungal diseases in higher animals. (20 marks)
12. Discuss the procedure for mushroom cultivation using organic substrates (20 marks)
13. Describe the classification and life patterns of lichens (20 marks)
14. Describe the structure and dispersal mechanisms of five types of fungal spores (20 marks)