



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE & TECHNOLOGY**  
**SCHOOL OF BIOLOGICAL AND PHYSICAL SCIENCES**  
**UNIVERSITY RESIT EXAMINATION FOR THE DEGREE OF BACHELOR OF**  
**EDUCATION SCIENCE WITH IT**  
**3<sup>rd</sup> YEAR 1<sup>st</sup> SEMESTER 2019/2020 ACADEMIC YEAR**  
**MAIN CAMPUS - REGULAR**

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<b>COURSE CODE:</b>	<b>SBI 3323</b>
<b>COURSE TITLE:</b>	<b>MYCOLOGY</b>
<b>EXAM VENUE:</b>	<b>STREAM: (BED/BSC)</b>
<b>DATE:</b>	<b>EXAM SESSION:</b>
<b>TIME: 2 HOURS</b>	

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**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: (30 MARKS)**

1. Explain the basic features of the somatic structure in the fungal life cycle  
(3 marks)
2. Distinguish between prosenchyma and pseudo-parenchyma tissues in fungi  
(3 marks)
3. State four differences in the vegetative structures of the fungal genera *Phytophthora* and *Pythium*  
(2 marks)
4. Use a diagram to illustrate gametangial copulation in the fungal family Zygomycetes  
(2 marks)
5. State three possible causes of heterokaryosis in fungi  
(3 marks)
6. The parasexual cycle in fungi causes genetic recombination in fungal vegetative cells. Outline the steps by which the cycle occurs  
(3 marks)
7. Explain three ways by which conidiophores are formed in Ascomycetes fungi  
(3 marks)
8. Define the following terms as used in mycology
  - i) Eucarpic thallus  
(2 marks)
  - ii) Coenocytic mycelium  
(2 marks)
  - iii) Pyriform oogonium  
(2 marks)
9. Name the asexual spores produced by the following classes of fungi
  - i) *Basidiomycetes*  
(1 mark)
  - ii) *Zygomycetes*  
(1 marks)
  - iii) *Deuteromycetes*  
(1 mark)
10. Explain two types of aquatic fungal life forms  
(2 marks)

**SECTION B (40 MARKS)**

11. a) Describe the saprophytic role of fungi in degradation of the following materials.
  - i) Wood products  
(4 marks)
  - ii) Paper  
(4 marks)
  - iii) Textile  
(4 Marks)
- b) Describe the following parasitic life forms of fungi  
(4 marks)
  - i) Necrotic fungi  
(2 marks)

ii) Biotrophic fungi (2 marks)

12. a) Discuss the pathogenic Myxomycetes fungus *Plasmodiophora brassicae* under the following subheadings

i) Habitat (2 marks)

ii) Disease caused (2 marks)

iii) Hosts (2 marks)

iv) Vegetative structure (2 marks)

b) Use an illustration to discuss the life cycle the fungus *Plasmodiophora brassicae*

(12 marks)

13. Discuss the economic importance of fungi to human (20 marks)