



## UNIVERSITY OF EMBU

---

**2017/2018 ACADEMIC YEAR**

**SECOND SEMESTER EXAMINATIONS**

**THIRD YEAR MAIN EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE (MICROBIOLOGY AND BIOTECHNOLOGY), BACHELOR OF SCIENCE (BIOLOGY), BACHELOR OF SCIENCE, AND BACHELOR OF EDUCATION (SCIENCE)**

**SBT 301: GENERAL MYCOLOGY**

**DATE: APRIL 4, 2018**

**TIME: 8:30-10:30 AM**

---

**INSTRUCTIONS:** Answer **ALL** Questions from **SECTIONS A and B**, and **ONE** Question selected from **Section C**.

---

**SECTION A: Multiple Choice Questions (1 Mark each)**

Please tick in the box opposite the correct answer.

---

1. Parasexuality occurs in the following groups except?

- Ascomycotina
- Zygomycotina
- Deuteromycotina
- Basidiomycotina

2. Which of the following is not a Basidiomycete?

- Jelly fungi
- Smut fungi
- Shelf fungi
- Cup fungi

3. Which group of fungi form clamp connections during mitotic nuclear divisions?
- Ascomycota
  - Mucorales
  - Basidiomycota
  - Chytridiomycota
- 
4. A nucleus within an ascus undergoes meiosis, producing four haploid spores, which then undergo mitosis, producing eight haploid ascospores. These haploid ascospores contain a maximum of \_\_\_\_\_ different genetic types.
- One
  - Two
  - Three
  - Four
5. Basidia produce spores by the process of \_\_\_\_\_
- Binary fission
  - Mitosis
  - Meiosis
  - Plasmogamy
6. Karyogamy produces a \_\_\_\_\_
- Diploid zygote
  - Haploid zygote
  - Mycelium
  - Spores
7. Which of the following contains two haploid nuclei?
- The heterokaryotic stage of the fungal life cycle
  - Spore-producing structures
  - Mycelium
  - Zygote

8. Which of the following species of fungi does not produce Zearalenone?

- Fusarium culmorum*
- Fusarium graminearum*
- Fusarium moniliforme*
- Fusarium crookwellense*

9. Which of the following statements about conidia is false?

- They are sexual spores produced on specialized hyphae known as conidiophores
- They may be simple, club-shaped or branched
- They may be produced singly or grouped in various types of conidia-bearing structures
- Sporodochium are a special type of conidia

10. Which of the following describes zygosporangia?

- They are diploid
- They are heterokaryotic
- They are heterotrophic
- They are haploid

11. Woronin bodies are a unique characteristic of \_\_\_\_\_

- Basidiomycetes
- Ascomycotina
- Mucorales
- Oomycetes

12. In sac fungi, karyogamy and meiosis occur in?

- Ascospores
- Asci
- Ascogonia
- Antheridia

13. The gray-black, filamentous, haploid mycelium growing on bread is most likely what kind of organism?

- Ascomycete
- Basidiomycete
- Deuteromycete
- Zygomycete

14. Mushrooms with gills have meiotically produced spores located in or on

- Zygosporangia
- Asci
- Basidia
- Conidiophores

15. Which of the following order of fungi has both a diploid and haploid thallus existing as free living organisms?

- Endogonales
- Blastocladales
- Zoopales
- Saccharomycetales

**SECTION B: SHORT ANSWER QUESTIONS (5 Marks Each)**

**Your answers should be brief and to the point (Use the examination answer book provided)**

16. Discuss the key distinguishing features of members of the class Oomycetes.

17. Discuss the harmful effects of fungi of the group Ascomycotina.

18. Discuss the key types of spores produced by a typical rust.

19. Identify the causative agents of the following fungal diseases

Disease	Causative agent
Aspergillosis	
Coccidiomycosis	
Histoplasmosis	
Mouth thrush	
Mycetoma	

20. Discuss the salient features of the phylum Zygomycotina.

21. Outline the economic significance of the following fungi:

- i. *Penicillium griseofulvum*
- ii. *Aspergillus niger*
- iii. *Agaricus campestris*
- iv. *Fusarium crookwellense*
- v. *Saccharomyces cerevisiae*

**SECTION C: ESSAY QUESTIONS (25 Marks Each)**

**Write an essay on any ONE of the following topics (Use the examination answer book provided)**

22. Discuss parasexuality in fungi.

23. Describe the fungal phylum Zygomycota.

24. Discuss human mycosis.

--END--

