



# MASENO UNIVERSITY

## UNIVERSITY EXAMINATIONS 2012/2013

THIRD YEAR FIRST SEMESTER EXAMINATIONS FOR  
THE DEGREE OF BACHELOR OF SCIENCE IN  
BIOMEDICAL SCIENCE & TECHNOLOGY/MEDICAL  
LABORATORY SCIENCE/PHARMACEUTICAL SCIENCE  
WITH INFORMATION TECHNOLOGY  
(MAIN CAMPUS - SPECIAL EXAMS)

### PMT 322: MEDICAL MYCOLOGY

*Date: 30<sup>th</sup> July, 2013*

*Time: 2.00 – 4.00 p.m.*

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#### INSTRUCTIONS:

SECTION A: Answer ALL QUESTIONS from this Section (40 marks)

SECTION B: Answer ANY TWO QUESTIONS in this Section (30 marks).

ISO 9001:2008 CERTIFIED



**SECTION A (40 MARKS). Answer ALL the questions in this section.**

1. What does the term dimorphism mean with reference to fungal morphological classification. (4 mks)

2. Describe the mechanisms of resistance flucytocine and echinocardins. (4 mks)

3. Briefly describe laboratory diagnosis of *Tinea unguium* (4 mks)

4. What do you understand by the abbreviation AFM1 and what human samples would you require in the laboratory to detect AFM1? (4 mks)

5. Briefly describe the use of Yeast Extract Media to isolate *Blastomyces dermatitidis* and *Histoplasma capsulatum* from contaminated specimens. (4 mks)

6. A 24 year old male presents with brownish red-scales on the skin of the trunk, neck, face and arms.

7. Outline the functions of fungal cell wall (any four). (4 mks)

8. What are the microscopic morphologic characteristics of *Cryptococcus neoformans*? (4 mks)

9. Match the following fungal pathogens with the diseases they cause classification.

Pathogen	Disease caused
<i>Piedra hortea</i>	Nail infection
<i>Tinea vesicolor</i>	Maduromycosis
<i>Tinea unguium</i>	<i>Malasszia furfur</i>
<i>Madurella mycetomatis.</i>	Black piedra

(4 mks)

10. Differentiate the two terms used in defining forms of Maduromycosis

a) Eumycetoma. b) Actinomycetoma (4 mks)

**SECTION B: Answer ANY 2 QUESTIONS from in this section (30 marks).**

**11. With at least two (2) examples discuss the mechanism of action and therapeutic use of the following antifungal drugs.**

**12. Discuss the chemical composition of the fungal cell wall. (15 mks)**

**13. With at least one example discuss virulence factors in fungal pathogenesis (15 mks)**