



**MASENO UNIVERSITY**

**UNIVERSITY EXAMINATIONS 2013/2014**

FOURTH YEAR FIRST SEMESTR EXAMINATIONS FOR THE  
DEGREE OF BACHELOR OF SCIENCE IN MEDICAL  
LABORATORY SCIENCE WITH INFORMATION TECHNOLOGY

(MAIN CAMPUS)

**PMT 418: DIAGNOSTIC MICROBIOLOGY AND  
PARASITOLOGY**

*Date: 20<sup>th</sup> November, 2013*

*Time: 11.00 a.m. - 1.00 p.m.*

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**PMT 418: DIAGNOSTIC MICROBIOLOGY AND PARASITOLOGY**

**Date:** \_\_\_\_\_

**Time:** \_\_\_\_\_

**INSTRUCTIONS:**

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

**SECTION B:** Answer **Question 11 Compulsory** and **ANY 1 QUESTIONS** from this section (30 marks)

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

1. Briefly describe the personal safety protection precautions during specimen handling in the laboratory. (4 marks)
2. Outline the process of collecting stool specimen for bacterial isolation and identification. (4 marks)
3. What are the functions of the following chemicals/nutrients in bacteria medium?
  - i) Beef extract
  - ii) Peptone
  - iii) Agar
  - iv) Glucose (4 marks)
4. Briefly describe complement fixation as a method of pathogen detection. (4 marks)
5. Describe the laboratory diagnosis and identification of *Histoplasma capsulatum*. (4 marks)

6. List the basic components of a polymerase chain reaction (PCR) used in DNA analysis of pathogens. (4 marks)
7. Describe the formulation used in preparation of antibiotic stock solutions for use in antimicrobial susceptibility test. (4 marks)
8. Outline the procedure for serological typing of Streptococci. (4 marks)
9. Describe the four methods used in probe labeling for use in detection of pathogens. (4 marks)
10. On what grounds can a laboratory technologist reject specimens sent for laboratory diagnosis. (4 marks)

#### **SECTION B**

**Answer Question 11 (Compulsory) and ANY 1 QUESTION from this section (30 marks).**

11. Discuss the laboratory diagnostic procedure for detection of malaria parasite in blood specimen (15 marks)
12. Discuss the methods commonly used in isolation of bacteria from clinical specimen (15 marks)
13. Discuss the three techniques used for cultivating viruses (15 marks)