



"Investing in Africa's Future"

**COLLEGE OF HEALTH, AGRICULTURE AND NATURAL
SCIENCES
DEPARTMENT OF BIOMEDICAL AND LABORATORY SCIENCES
BACHELOR OF MEDICAL LABORATORY SCIENCES HONOURS**

NSLS209: IMMUNOLOGY PRACTICALS

END OF SECOND SEMESTER FINAL EXAMINATIONS

APRIL/MAY 2023

LECTURER: MR G. MALUNGA

DURATION: 3 HOURS

INSTRUCTIONS

Answer **all** questions on the separate answer sheet provided.

Mark allocation for each question is indicated at the end of the question

Credit will be given for logical, systematic and neat presentations

Question 1

You are provided with two samples from a couple which had visited an HIV clinic after suspecting that they may be HIV-positive. Sample **M** is for the husband and sample **F** is for the wife. You are required to carry out an HIV Rapid test on the 2 samples using the provided test kits. Start with the Determine HIV-1/2 Antibody Test and then proceed to the INSTI HIV-1/2 Antibody Test if the Determine Test is positive.

Determine HIV 1/ 2 Test Procedure

- i. Remove the protective foil from the test card.
- ii. Using a micropipette, apply 50 µl of sample **H** to the sample pad (indicated by an arrow).
- iii. Wait one minute and then apply one or two drops of chase buffer to the sample pad.
- iv. Wait a minimum of 15 minutes and then read the result.
- v. Do not read the result after 60 minutes.
- vi. If the result is positive, repeat the test using the INSTI HIV-1/2 Antibody Test.

INSTI HIV-1/2 Antibody Test procedure

Follow the procedure in the INSTI HIV-1/2 Antibody Test kit insert provided

Results

- a) Record your results in a suitable table. [25]
- b) Discuss your results giving possible explanations for the results obtained. [10]
- c) Explain the principle of the INSTI HIV-1/2 Antibody Test. [15]

TOTAL: 50 Marks

Question 2

You are provided with 2 urine samples labeled **M1** and **M2** from 2 women who are suspected to be pregnant because they have missed their monthly periods for two consecutive months. Carry out the pregnant test on the urine samples using the given test kit following the procedure below.

Pregnant test procedure

- i. Take a reaction slide and label the circles **M1**, **M2**, **N** and **P**.
- ii. Gently mix the pregnancy latex reagent and place one drop of the latex reagent on each of the 4 labeled circles.
- iii. Using a disposable pipette, place one drop of each urine sample on the corresponding labeled circle and mix the contents of each circle using the paddle end of the pipette. Place a drop of the positive control on the circle labeled **P** and a drop of the negative control on the circle labelled **N**. Use a new pipette for each circle.
- iv. Rotate the slide back and forth for 2 minutes and read the results.

Questions

- a) Record your results in the form of a table. [25]
- b) Explain the principle of the pregnancy test used in this question. [10]
- c) Which sample is from a woman who is about 10 weeks pregnant? Support your answer. [5]
- d) Sometimes a woman who is pregnant can produce a urine sample which can give a negative pregnancy test. What are the possible causes of this scenario? [5]
- e) Which other tests can be done to confirm your results? [5]

[Total: 40 Marks]