



“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 PRACTICAL

END OF SECOND SEMESTER FINAL EXAMINATIONS

APRIL 2024

LECTURER: MR Z. CHIWODZA

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 2 women in a polygamous marriage. They are married to man who has since discovered that he is HIV positive. Sample **F** is for the first wife and sample **S** is for the second 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 on the kit inserts provided for each test

Follow up Questions

- a) Record your results in a suitable form. [40]
- b) Discuss your results giving possible explanations for the results obtained. [10]

TOTAL: 50 Marks

Question 2

Two samples (Sample **X** and sample **Y**) have come from the OPD. They are from 2 women who suspect they might be pregnant because they have missed their periods for 2 consecutive months. Carry out the pregnancy test on the urine samples using the given test kit following the procedure below.

Pregnancy test procedure

- i. Take a reaction slide and label the circles **X**, **Y**, **N** and **P**.
- ii. Gently mix the pregnancy latex reagent and place one drop of the latex reagent on each of the 4 labelled circles.
- iii. Using a disposable pipette, place one drop of each urine sample on the corresponding labelled 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 labelled **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.

Follow up Questions

- a) Record your results on a Result form that you design (There will be no need to have it signed by the lab supervisor). [40]
- b) Discuss the results you have obtained in relation to the 2 patients. [5]
- c) Explain the principle of the pregnancy test used in this question. [5]

TOTAL: 50 Marks

Question 3.

Using the Kit Insert provided, develop a Standard Operating Procedure for the Syphilis/HIV Duo test. Your SOP should include the following headings

- Principle of the test, [5]
- Sample requirements, [2]
- Equipment and Reagents, [1]
- Quality Control, [2]
- Procedure, [5]
- Interpretation of results, [5]
- Reporting of results. [5]

TOTAL: 25 Marks