THE UNITED REPUBLIC OF TANZANIA

NATIONAL EXAMINATIONS COUNCIL

ADVANCED CERTIFICATE OF SECONDARY EDUCATION EXAMINATION

134/3 **AGRICULTURE 3**

(For Both School and Private Candidates)

Duration: 3 Hours **Year: 2025**

Instructions

1. This paper consists of **three (3)** questions.
2. Answer **all** questions.
3. Question **one (1)** Carries **twenty (20)** marks; question **two (2)** and **three (3)** carry **fifteen (15)** marks each.
4. Cellular phones are **not** allowed in the examination room.
5. Write your **Examination Number** on every page of your answer booklet(s).

1. You are provided with specimens' **C** and **D**, source of water, graduated hand sprayer, measuring cylinders and a stop watch. Perform the following procedures then answer the questions that follow:

Procedures

(i) Use water to make the plants grown on specimen **C** wet.

(ii) Pour 1,000 cm^3 of water into a graduated hand sprayer.

(iii) By using 10 cm^3 measuring cylinder, measure 10 cm3 of specimen **D**.

(iv) Put 10 cm3 of specimen **D** into a graduated hand sprayer containing 1,000 cm^3 of water.

(v) Shake the mixture for about 10 seconds.

(vi) Spray the mixture on the plants grown on specimen **C** until all plant parts become covered.

(vii) Observe the results of the plants grown on specimen **C** after 20 minutes.

Questions

(a) What is the aim of the experiment?

(b) What have you observed to plants grown on specimen **C** after 20 minutes?

(c) What fault has been noted from your observations in part (b)? Give the cause of the fault.

(d) If the quantity of specimen **D** used can spray an area of 1000 m^2, calculate the amount of the specimen **D** a farmer should buy in order to spray his 10 hectare of maize field.

(e) Advise the farmer on the proper ways of handling and using specimen **D**. Give seven points.

(f) Account for the three modes of action of specimen **D**.

2. You are provided with specimens' **T** and **U**, **X** and **Y**, two syringes, two test tubes and two groves. Perform the following procedures then answer the questions that follow:

Procedures

(i) Wear the gloves.

(ii) By using forceps, hold and place specimen **T** into the test tube labeled **1**.

(iii) Measure 5 cm^3 of specimen **X** by using syringe.

(iv) Release specimen **X** into the test tube labeled **1** drop wise until you observe changes to the specimen **T.**

(v) Repeat the same procedures to specimen **U** in a test tube labeled **2** by using **Y.**

Questions

(a) What is the aim of the experiment?

(b) What have you noticed from the experiment?

(c) From the results of experiment, which specimen would you recommend for use between **X** and **Y**?

(d) Briefly explain the stages of development from the egg to adult that specimens **T** and **U** can pass if the farmer is keeping only one cattle.

(e) The farmer was keeping a large number of cattle which were severely infected with various species of specimens **T** and **U**. Suggest the possible disease that may occur to the farmer's heard if the recommended specimen in part (c) is not used.

(f) Briefly explain three methods of applying specimen **X** on animals.

3. You are provided with specimen M, knapsack sprayer and a wall clock. Perform the following procedures then answer the questions that follow:

Procedures

(i) Fill a knapsack sprayer with specimen M.

(ii) Take a knapsack sprayer containing specimen M from its position and put it on your back and adjust the shoulder straps until you fill comfortable.

(iii) Pump the operating handle until you notice a difference and direct the delivery tube into the water sink.

(iv) Stop pumping after noticing the difference.

(v) Grip and press on-off lever for 30 seconds (a half a minute).

(vi) Observe the pattern of mist of liquid coming out for 30 seconds (a half aminute).

(vii) Remove a sprayer from your back and place it in its original position.

Questions

(a) What difference was noticed when pumping the operating handle?

(b) Briefly explain the implication of the difference noticed in part (a).

(c) Why is the on-off lever not pressed before and during pumping the operating handle?

(d) Briefly describe the pattern of liquid observed coming out.

(e) Which part of the sprayer is responsible for making liquid pattern in part (d)?

(f) Proper working of the part named in (e) is essential for efficient functioning of sprayer. How would you maintain the part?

(g) What are the factors to consider when carrying out procedure (i) – (iii) in the field of crops for controlling pests? Give five points.