THE UNITED REPUBLIC OF TANZANIA
NATIONAL EXAMINATIONS COUNCIL OF TANZANIA
CERTIFICATE OF SECONDARY EDUCATION EXAMINATION

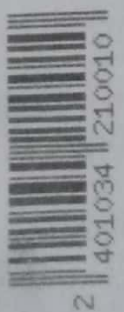
034/2

AGRICULTURE 2
(ACTUAL PRACTICAL)
(For Both School and Private Candidates)

Time: 2:30 Hours **Year: 2024**

Instructions

1. This paper consists of **two (2)** questions.
2. Answer **all** questions.
3. Each question carries **twenty five (25)** marks.
4. All writing must be in **blue** or **black** ink, except drawings which must be in pencil.
5. Communication devices and any unauthorised materials are **not** allowed in the examination room.
6. Write your **Examination Number** on every page of your answer booklet(s).



1. (a) You are provided with specimen **P**. Perform the following procedures and answer the questions that follow:

Procedure

(i) Weigh an empty dry crucible.

(ii) Weigh 100 g of sample **P** and put it in the crucible.

(iii) Strongly heat the sample in a crucible until the sample becomes brown red in colour.

(iv) Allow the sample to cool.

(v) Weigh the sample after heating and record.

Questions

(a) What is the aim of the experiment? **(1.5 marks)**

(b) From the experiment, is there any significant change of weight observed in sample **P** before and after heating? Give a reason for your answer. **(2 marks)**

(c) Suggest two possible materials present in the sample **P** before heating. **(1 mark)**

(d) Give two significance of each of the materials suggested in part (c) in crop production. **(6 marks)**

(b) You are provided with specimens **K**, **L** and **M**.

Procedure

(i) Measure 300 cm^3 of clean lukewarm water and put it into a 500 cm^3 beaker.

(ii) Whip/break specimen **K** and pour it into 500 cm^3 beaker containing lukewarm water.

(iii) Add one dessert spoonful of specimen **L** into the beaker.

(iv) Add one dessert spoonful of specimen **M** into the beaker.

(v) Stir the mixture by using stirring rod.

(vi) Measure the volume of mixture obtained.

Questions

(a) From the experiment, suggest the probable volume of the mixture obtained. **(2 marks)**

(b) If a newly born calf requires 4 liters of the mixture made in 12 hours, how many times would you need to prepare the same amount of the mixture made to satisfy the requirement of the calf in 12 hours? **(2 marks)**

(c) Why was lukewarm water used in the preparation of the mixture? **(1.5 marks)**

(d) Briefly explain the role of specimens **K**, **L** and **M** in the mixture. (3 marks)

(e) Examine three importance of the mixture that formed in the procedures (b) (i) – (vi). (2 marks)

(f) Suggest the time frame for the formed substance in (e) to be used. (1 mark)

(g) Why the substance formed in (e) should not be used after the time frame you have suggested in part (f)? (1 mark)

(h) What is the circumstance that necessitates the substance to be made? (2 marks)

2. You are provided with specimen **X**, table spoon, match box with match sticks, 250 cm^3 beakers, iodine solution, dropper, 50 cm^3 measuring cylinder and stirring rod. Perform the following procedures and answer the questions that follow:

Procedure for Experiment I

(i) Take a dry match box with match stick.

(ii) Dip the tip of the match stick into the specimen **X**.

(iii) Strike the same match stick against the rough surface of the match box and make observation.

Procedure for Experiment II

(i) Put a table spoon full of specimen **X** in the beaker; add 10 cm^3 of water and 3 drops of iodine solution.

(ii) Mix it well with stirring rod and make observation.

Questions

(a) What is the aim of the two experiments? (1 mark)

(b) Why is it important to carry out those two experiments? (2 marks)

(c) What is your observation in each of the two experiments? (2.5 marks)

(d) Based on observations in the two experiments, what can you conclude about the status of the specimen? (1 mark)

(e) Briefly describe seven steps on how you would obtain and process the given specimen. (10.5 marks)

(f) Give four significance of processing the specimen. (4 marks)

(g) Examine four usefulness of the specimen. (4 marks)