

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

034/2

**AGRICULTURAL SCIENCE 2
(PRACTICAL)
(For Both School and Private Candidates)**

Time: 2:15 Hours

Friday, 18th November 2016 a.m.

Instructions

1. This paper consists of **three (3)** questions.
2. Answer **two (2)** questions.
3. Each question carries 25 marks.
4. Cellular phones and calculators 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 A, B, C, D, E, F and G. Observe them carefully and answer the questions that follow:
 - (a) (i) Identify each of specimens A and D by their botanical name. (1 mark)
 - (ii) Give two main reasons why seeds of specimen A have to be treated. (2 marks)
 - (iii) State any two importance of specimen A plant in core production. (1.5 marks)
 - (iv) Briefly explain three methods of harvesting specimen A. (3 marks)
 - (v) Name rhizobium strain which fix nitrogen in specimen D. (1 mark)
 - (b) (i) Identify specimens B and C by their scientific names. (1 mark)
 - (ii) How could you control specimens B and C? (2 marks)
 - (iii) State six ideal measures to be taken in order to reduce the rapid development of specimen C in storage of grain. (3 marks)
 - (c) (i) State four factors which determine the quality of specimen E. (2 marks)
 - (ii) Outline seven steps to be followed during hand baling of specimen E. (3.5 marks)
 - (iii) How could you improve the palatability of specimen E in livestock? (0.5 mark)
 - (d) (i) Identify specimens F and G by their scientific names. (1 mark)
 - (ii) State two control measures of specimen F. (1 mark)
 - (iii) Briefly describe three typical symptoms infection which can be observed in specimen G. (1.5 marks)
 - (iv) Briefly describe the 'mosaic' pattern of disease in specimen G. (1 mark)
2. You are provided with specimens H, I, J, K, L, M and N. Observe them carefully and answer the following questions:
 - (a) (i) State five microbial activities which takes place in specimen H. (2.5 marks)
 - (ii) Briefly describe the specimen H. (2 marks)
 - (b) (i) State five characteristics of specimen I. (2.5 marks)
 - (ii) What are the five factors to be considered in siting the apiary for specimen I? (2.5 marks)
 - (iii) Name four materials which are collected by specimen I for making its products. (2 marks)
 - (iv) Give two uses of processed specimen J. (1 mark)
 - (c) (i) Identify specimens L and M by their botanical name. (1 mark)
 - (ii) State six desirable qualities for specimens L and M in livestock keeping. (3 marks)

- (iii) Outline ten practices that should be taken into consideration in order to manage specimens L and M for livestock keeping. (5 marks)
- (iv) Provide four ingredients for making artificial of specimen K. (2 marks)
- (d) (i) Identify specimen N. (0.5 mark)
- (ii) What is the use of specimen N? (1 mark)

3. You are provided with specimens O, P, Q, R, S, T and U. Observe them carefully and answer the questions that follow:

- (a) (i) Briefly describe the procedure for using specimen O. (1.5 marks)
- (ii) What are the relationship between specimen O and P? (1 mark)
- (b) (i) Identify specimen Q. (0.5 mark)
- (ii) What is the use of specimen Q? (1 mark)
- (iii) Account for three extreme effects of soil acidity which has not been controlled by application of specimen Q to plant growth. (3 marks)
- (c) (i) Identify specimen R. (0.5 mark)
- (ii) What are the four challenges of using specimen R in farming? (2 marks)
- (iii) Briefly explain three agronomic practices to be adopted to maintain the soil organic matter content hence soil fertility apart from using specimen R. (3 marks)
- (iv) Account for the effects of using specimen R which has a wide C:N ratio in the soil with deficient in Nitrogen. (2 marks)
- (d) (i) State the process involved in using specimen S in oxenization. (1 mark)
- (ii) Outline four components to be used in making specimen S. (2 marks)
- (iii) Apart from specimen S, list other two types of specimen. (1 mark)
- (iv) State four classes of animals used for draughtwork with specimen S. (2 marks)
- (e) Propose three equipment which are used together with specimen T in its function. (1.5 marks)
- (f) (i) With the aid of specimen U, name the main three types of plastering. (1.5 marks)
- (ii) State three methods of laying specimen U in masonry work. (1.5 marks)