

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

034/1

AGRICULTURAL SCIENCE 1
(For Both School and Private Candidates)

Time: 2:30 Hours

Monday, 19th November 2018 p.m.

Instructions

1. This paper consists of sections A, B and C with a total of **thirteen (13)** questions.
2. Answer **all** questions in sections A and B and **one (1)** question from section C.
3. Read the instructions under each section carefully.
4. Cellular phones and any unauthorised materials are **not** allowed in the examination room.
5. Write your **Examination Number** on every page of your answer booklet(s).

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SECTION A (20 Marks)

Answer **all** questions in this section.

1. For each of the items (i) - (x), choose the correct answer among the given alternatives and write its letter beside the item number in the answer booklet provided.
- (i) A list of all that a farmer owns and the cash value of each item is called
A asset. B inventory. C liability.
D stock. E valuation.
- (ii) Which one of the following tools is used for removing out nails?
A Screw driver B Chisel C Brace
D Ball pein hammer E Pincers
- (iii) The crop disease that is caused by viruses is known as
A blight. B canker. C mosaic.
D rust. E mildew.
- (iv) Which type of fertilizer helps in the development of the root system?
A Sulphate of ammonia B Urea
C Muriate of potash D Triple superphosphate
E Calcium ammonium nitrate.
- (v) Which one of the following is the most effective way of learning in agricultural extension by rural people?
A Learning by doing B Learning by listening
C Learning by innovating D Learning by watching
E Learning by reading.
- (vi) The management practice in sheep that allows mating to take place with little difficulty is known as
A castration. B shearing. C dehorning.
D docking. E debeaking.
- (vii) The form of agroforestry in which crops and trees or shrubs are grown on the same piece of land is referred to as
A silvopastoral. B agrosilvopastoral.
C agrisilvicultural. D apiforestry.
E entomoforestry.
- (viii) The economic problem that hinders agricultural development in Tanzania is
A scarcity of inputs B simple and inefficient tools
C poor marketing facilities D limited research facilities
E poor health in part of the farmers

- (ix) Which practice causes soil to lose its fertility?
 A Alley cropping B Mixed cropping
 C Intercropping D Multistory cropping
 E Monocropping
- (x) Which practice can best control maize streak virus disease?
 A Burning crop residues
 B Early harvesting
 C Early sowing
 D Uprooting of diseased plants
 E Application of nitrogen fertilizers.

2. Match the phrases in **List A** with the responses in **List B** by writing the letter of the correct response from **List B** beside the item number in the answer booklet provided.

LIST A	LIST B
(i) The disease characterized by the animal giving out excessive saliva and difficulty breathing.	A. Mastitis
(ii) The disease characterized by swollen lymph nodes.	B. Brucellosis
(iii) The disease characterized by the discharge of blood stained urine.	C. Anthrax
(iv) The disease characterized by the animal giving out a lot of tears from the eyes.	D. Black quarter
(v) The disease characterized by reddish and swollen udder.	E. Tuberculosis
(vi) The disease characterized by the animal bleeding non clotting blood from the natural openings.	F. Foot and Mouth Disease
(vii) The disease characterized by the animal discharging mucus from the mouth, becoming weak, lying down being unable to rise again.	G. Rabies
(viii) The disease characterized by sudden abortion shown by blood stained tail and rump of an animal.	H. Rinderpest
(ix) The disease characterized by swellings in areas of heavy muscles which when pressed gives out a peculiar cracking sound.	I. East Coast Fever
(x) The disease characterized by the animal showing nervous symptoms, moving in a circle and twitching of eyelids, falling down its legs keep paddling in the air.	J. Heart Water
	K. Anaplasmosis
	L. Trypanosomiasis
	M. Babesiosis
	N. Scours
	O. Pneumonia

SECTION B (60 Marks)

Answer **all** questions in this section.

3. (a) State the meaning of biological weed control and give three methods in which biological weed control is applied. **(4 marks)**
- (b) Classify herbicides on the basis of time of application and briefly explain their time of application. **(3 marks)**
4. (a) Outline six advantages of silage making. **(3 marks)**
- (b) (i) What do you understand by the term 'ration' as it is used in animal feeding? **(1 mark)**
- (ii) Account for any five factors to be considered in formulating rations. **(5 marks)**
5. (a) (i) What is meant by factor of production? **(1 mark)**
- (ii) Analyze three characteristics of land as a factor of production. **(3 marks)**
- (b) Examine four roles of entrepreneurship as a factor of production. **(4 marks)**
6. (a) (i) What is a soil profile? **(1 mark)**
- (ii) Briefly describe the 'O' horizons in a soil profile. **(3 marks)**
- (b) Briefly explain three importance of soil profile in crop production. **(3 marks)**
7. (a) Describe the characteristics of each of the following categories of innovation adopters.
- (i) Late majority
- (ii) Early majority
- (iii) Laggards
- (iv) Innovators **(4 marks)**
- (b) (i) Distinguish between adoption of an innovation and diffusion of an innovation. **(2 marks)**
- (ii) Assess the significance of 'evaluation' and 'trial' in the process of adoption of an innovation. **(2 marks)**
8. (a) (i) What is surveying? **(1 mark)**
- (ii) State four purposes of surveying. **(2 marks)**
- (b) Elaborate the functions of six instruments used in chaining method of linear measurements in surveying. **(6 marks)**
9. (a) (i) What is the meaning of wood preservation? **(1 mark)**
- (ii) Briefly describe the cold dipping method of applying preservatives and name two types of wood for which the method is mostly used. **(2 marks)**

- (b) Point out two advantages and four disadvantages of creosote oil as a wood preservative. **(3 marks)**
10. (a) Why soil erosion is one of the most serious problems in agriculture? Give three reasons. **(3 marks)**
- (b) Briefly explain three forms in which water erosion occurs. **(3 marks)**

SECTION C (20 Marks)

Answer **one (1)** question from this section.

11. Weeds and pests are great enemies in crop production. Examine the use of chemical method in controlling weeds and pests by citing on its eight advantages, five disadvantages and the seven safety precautions in use of agro-chemicals.
12. Explain eight benefits that farmers can get by forming cooperatives for marketing their products and examine six problems facing agricultural marketing cooperatives in Tanzania.
13. (a) Describe five procedures involved in preparing the cows for milking and milking process using hand milking system.
- (b) Give seven essentials of clean milk production.