

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

034/1

**AGRICULTURAL SCIENCE 1**  
(For Both School and Private Candidates)

**Time: 2:30 Hours**

**Wednesday, 16<sup>th</sup> November 2016 p.m.**

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**Instructions**

1. This paper consists of sections A, B and C.
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 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) Systematic error in surveying can be caused by  
A misreading the tape or chain  
B wrong holding of tape or chain  
C miscounting tape or chain length  
D poor straightening of tape or chain  
E variation in tension of tapes or chains.
- (ii) Which of the following groups is influential in convincing farmers to adopt new innovations in farming and livestock husbandry?  
A Researchers                      B Extension workers              C Local leaders  
D Political leaders                  E Women.
- (iii) Which one of the following is **not** applicable to *Tilapia* as the most favoured fish pond in Tanzania?  
A Breed and grow very fast.              B Suffer from less parasites.  
C Grow best in fresh warm water.        D Easy to feed.  
E Easy to harvest and process.
- (iv) The normal way of harvesting tea in the field is to pick  
A two leaves and a bud                      B four leaves and a bud  
C three leaves and a bud                    D three leaves without a bud  
E one leaf and a bud
- (v) Human activity that facilitates gully erosion includes  
A deforestation                              B burning of vegetation  
C overgrazing                                 D cultivation along slopes  
E monocropping.
- (vi) Before planting bean seeds it is advised to apply  
A sulphate of ammonia                      B muriate of potash  
C calcium ammonium nitrate              D urea  
E triple super phosphate.
- (vii) Which one of the following is **not** a characteristic for a good udder in a dairy cow?  
A Medium sized teats                        B Neaty stiff udder  
C Big udder                                     D Firmly attached udder  
E Big milk vein.

- (viii) The order of arrangement of stomach chambers from mouth in ruminant animals is
- A reticulum, rumen, abomasum, omasum
  - B rumen, omasum, reticulum, abomasum
  - C rumen, reticulum, omasum, abomasum
  - D reticulum, abomasum, rumen, omasum
  - E omasum, rumen, reticulum, abomasum.
- (ix) Determination of the financial position of the farm is a function of
- A profit and loss account
  - B balance sheet
  - C cash flow analysis book
  - D partial budget
  - E income and expenditure book.
- (x) In soil profile, 'B' horizons are mainly characterized by
- A accumulation of materials
  - B leaching of materials
  - C decomposition of materials
  - D consolidation of materials
  - E weathering of materials.

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

LIST A	LIST B
(i) Buys agricultural products and change their forms before selling them.	A Speculator
(ii) Concentrates buyers and sellers at a particular time and place and offers a specialized service in the negotiation of purchase and sales.	B Retailer
(iii) Buys the goods in bulk and sells to other merchants in relatively large quantities.	C Cooperative
(iv) Promotes production and organize marketing of major crops and livestock.	D Processor
(v) Moves from one place to another buying goods and sell them at the markets in towns.	E Debtor
(vi) Represents buyers and/or sellers and brings them together.	F Arbitrageur
(vii) Serves either producers to market their products or consumers to have fair prices for the goods.	G Shopper
(viii) Acts on behalf of other businessmen by selling goods and services for a fee.	H Auctioneer
(ix) Handle goods and sells them to final consumers in small quantities.	I Corporation and authority
(x) Buys goods from one place and sells to another place and makes profit due to difference in prices between two places.	J Commision agent
	K Broker
	L Consumer
	M Creditor
	N Wholesaler
	O Jobber

## SECTION B (60 Marks)

Answer **all** questions in this section.

3. (a) Briefly explain any three important economic problems that hold back development of agriculture in Tanzania. **(3 marks)**
- (b) Outline six measures to be taken by farmers to improve agriculture in Tanzania. **(6 marks)**
4. (a) Differentiate soil texture from soil structure. **(2 marks)**
- (b) Examine four importance of soil texture in crop production. **(4 marks)**
5. (a) (i) Give the meaning of agricultural extension that explains it as an informal educational process. **(2 marks)**
- (ii) State the objective of agricultural extension. **(1 mark)**
- (b) Elaborate three principles of agricultural extension work. **(3 marks)**
6. (a) What is meant by the term 'horticulture' in crop production? **(1 mark)**
- (b) Account for five methods of vegetative propagation of fruit crops. **(5 marks)**
7. (a) Define the following terms as used in sheep farming.
- (i) Lamb
- (ii) Ewe **(1 mark)**
- (b) Briefly explain four advantages of docking in sheep. **(4 marks)**
8. (a) For what purpose are the following fittings used in plumbing?
- (i) Elbow
- (ii) Coupling
- (iii) Tee
- (iv) Union **(4 marks)**
- (b) Briefly describe how you would make the following timber joints.
- (i) Butt joint
- (ii) Dowel joint
- (iii) Lap joint **(6 marks)**
9. (a) Outline three reasons for keeping bees. **(3 marks)**
- (b) (i) Describe the procedure involved in honey harvesting. **(3 marks)**
- (ii) Enumerate the three steps in crushing and straining method of honey processing. **(3 marks)**

10. (a) Explain the meaning of the concept 'environmental degradation.' (2 marks)
- (b) Account for seven human activities that bring about degradation on land. (7 marks)

**SECTION C (20 Marks)**

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

11. In agricultural marketing, marketing middlemen perform marketing functions. Examine marketing channels of agricultural goods and explain the marketing functions performed by middlemen.
12. Evaluate the benefits of agroforestry to the farmer and account for the three agroforestry practices aiming at sustainable land use.
13. Many people in Tanzania keep poultry by using free-range system. Give six advantages and five disadvantages of free-range system and explain five importance of poultry industry in Tanzania.