

Candidate's Examination No. ....

THE UNITED REPUBLIC OF TANZANIA  
MINISTRY OF EDUCATION AND VOCATIONAL TRAINING  
FORM TWO SECONDARY EDUCATION EXAMINATION, 2013

0034

TIME: 2 HOURS

AGRICULTURAL SCIENCE

INSTRUCTIONS

1. This paper consists of sections A and B.
2. Answer **ALL** questions.
3. **ALL** answers must be written in the spaces provided.
4. Write your examination number at the top right corner of every page.
5. **ALL** writing must be in black or blue ink.
6. Cellphones are not allowed in the examination room.

| FOR EXAMINER'S USE ONLY |       |                      |
|-------------------------|-------|----------------------|
| QUESTION NUMBER         | SCORE | INITIALS OF EXAMINER |
| 1                       |       |                      |
| 2                       |       |                      |
| 3                       |       |                      |
| 4                       |       |                      |
| 5                       |       |                      |
| 6                       |       |                      |
| 7                       |       |                      |
| 8                       |       |                      |
| 9                       |       |                      |
| 10                      |       |                      |
| <b>TOTAL</b>            |       |                      |

This paper consists of 8 printed pages.

**SECTION A (30 MARKS)**

1. For each of the following statements, write **TRUE** for a correct statement or **FALSE** for a statement that is not correct.
- (i) When a student is physically injured the first step is to rush him/her to hospital. ....
  - (ii) The purpose of smearing grease or oil on metal surfaces of farm tools is to make them sharp. ....
  - (iii) In poultry husbandry toe pecking and cannibalism are desirable poultry habits. ....
  - (iv) Mixed cropping is the action of growing crops and keeping farm animals at the same time. ....
  - (v) Land as a factor of production includes all natural resources that are found in a certain place. ....
  - (vi) The largest proportion of the soil volume is mineral matter. ....
  - (vii) Most fruits are canned because they are perishable. ....
  - (viii) Ruminant farm animals like cows, goats and sheep have four stomach chambers. ....
  - (ix) Early crop planting is one of the mechanical methods of weed control. ....
  - (x) In farming business economics, prices of commodities are determined by the forces of supply and demand. ....

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2. Match the items in set A with those in set B by writing the correct letter below the corresponding question number in the table provided.

| SET A  |                                                                                       | SET B                    |
|--------|---------------------------------------------------------------------------------------|--------------------------|
| (i)    | A chemical used to kill weeds in crop fields                                          | A. Arable farming        |
| (ii)   | A cow purposely kept for meat production                                              | B. Beans and pigeon peas |
| (iii)  | Graphical representation of the quantity of goods bought at different prices          | C. Beef cattle           |
| (iv)   | Identification of fertile poultry eggs                                                | D. Candling              |
| (v)    | Leguminous crops                                                                      | E. Climate               |
| (vi)   | Major factor affecting livestock distribution in Tanzania                             | F. Dairy cattle          |
| (vii)  | Power generated from water                                                            | G. Demand curve          |
| (viii) | Production of crops for food or sale                                                  | H. Herbicides            |
| (ix)   | Useful for retaining soil moisture, regulating soil temperature and suppressing weeds | I. Hydro power           |
| (x)    | Vertical arrangement of soil horizons                                                 | J. Insecticides          |
|        |                                                                                       | K. Maize and wheat       |
|        |                                                                                       | L. Mulching              |
|        |                                                                                       | M. Soil porosity         |
|        |                                                                                       | N. Soil profile          |
|        |                                                                                       | O. Solar power           |
|        |                                                                                       | P. Supply curve.         |

### ANSWERS

| SET A | (i) | (ii) | (iii) | (iv) | (v) | (vi) | (vii) | (viii) | (ix) | (x) |
|-------|-----|------|-------|------|-----|------|-------|--------|------|-----|
| SET B |     |      |       |      |     |      |       |        |      |     |

3. Write the letter of the correct answer in the box provided for each question.

- (i) Which of the following animal feeds are concentrates?  
 A. Cotton seed cake and maize meal  
 B. Lucerne and maize bran  
 C. Rice bran and sorghum straw  
 D. Wheat bran and elephant grass.

☐

- (ii) The process whereby farm animals bring back to the mouth the swallowed curds for further chewing is termed as:  
 A. assimilation  
 B. digestion  
 C. regurgitation  
 D. vomiting.

☐

- (iii) A pattern of cropping where seeds are planted in a specific and systematic spacing is known as:  
 A. broadcasting  
 B. crop rotation  
 C. interplanting  
 D. row planting.

☐

- (iv) The practice of resting a piece of land for the purpose of fertilizing it is called:  
 A. fallowing  
 B. farrowing  
 C. intercropping  
 D. monocropping.

☐

- \*(v) The pore space of the soil body is usually filled with:  
 A. air  
 B. air and water  
 C. mineral matter  
 D. organic matter.

☐

- (vi) Which of the following practices will you use to hammer a piece of metal into a shape of your choice?  
 A. Forging  
 B. Hack-sawing  
 C. Soldering  
 D. Welding.

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- (vii) Which of the following tractor engine parts make a rotary motion?  
A. Crank shaft  
B. Cylinders  
C. Oil sump  
D. Piston. ☐
- (viii) According to a system used by the International Society of Soil Science, soil particles are classified according to their:  
A. diameters  
B. porosities  
C. structures  
D. textures. ☐
- (ix) The recommended grazing system in areas with high population densities is:  
A. continuous grazing  
B. rotational grazing  
C. tethering  
D. zero grazing. ☐
- (x) The weakness of human beings as sources of farm power is:  
A. may fall sick during farming seasons  
B. they are naturally lazy and subject to social problems  
C. they get tired and their ability to supply power is limited  
D. they need food and their ability to supply power is unlimited. ☐

### SECTION B (70 MARKS)

4. Name an instrument or tool which you can use in performing the following farm operations:-

- (a) Turning the soil, making ridges, weeding and uprooting stumps. .... Hand hoe .....
- (b) Levelling the soil, removing stones and weeds. .... Rakes .....
- (c) Turning and spreading manure. .... Fork .....
- (d) Digging shallow holes and transplanting seedlings. .... Shovel .....
- (e) Trimming hedges. .... Pruning shears .....
- (f) Harvesting cereals and cutting grass. .... Paranga .....
- (g) Watering seedlings. .... Watering can .....
- (h) Sawing wood along the grain. .... Saw .....
- (i) Cutting and shaping cold metals. .... Welder .....
- (j) Connecting pipes in straight line. .... Coupling .....

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5. (a) Define the term "Soil" as applied to agriculture.

.....

.....

.....

(b) Outline five types of soil which are found in Tanzania Mainland.

(i)

(ii)

(iii)

(iv)

(v)

.....

.....

.....

.....

.....

(c) List four factors that influence soil formation.

(i)

(ii)

(iii)

(iv)

.....

.....

.....

.....

6. Briefly explain five reasons as to why peasants in villages prefer the free-range poultry rearing system to other systems.

(i)

(ii)

(iii)

(iv)

(v)

.....

.....

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.....

.....

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7. (a) Define each of the following terms:

- (i) Price .....
- (ii) Price fluctuation .....
- (iii) Equilibrium price .....
- (iv) Capital .....
- (v) Asset .....

(b) Outline five types of price fluctuations.

- (i) .....
- (ii) .....
- (iii) .....
- (iv) .....
- (v) .....

8. (a) What is crop rotation?

(b) Give one reason for each of the following crop rotation principles:

- (i) Shallow-rooted crops should be rotated with deep-rooted crops. ....
- (ii) Heavy feeders should be rotated with light feeders. ....
- (iii) Crops with different families should be rotated. ....

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(iv) Legumes should be included in the rotation.

9. (a) Which type of tractor plough will you recommend for each of the following soil conditions:

(i) Soft and free of roots and rocks. ....

(ii) Rough and stony grounds. ....

(iii) Compacted and impermeable soil layers. ....

(b) Name an instrument which is used to perform each of the following farm operations:

(i) Holding hot metals. ....

(ii) Measuring squareness of two surfaces. ....

(iii) Carrying manure, soil and concrete mixture in the farm. ....

(iv) Spreading water during irrigation. ....

10. Outline five problems facing agriculture in Tanzania.

(i) ....

(ii) ....

(iii) ....

(iv) ....

(v) ....