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THE UNITED REPUBLIC OF TANZANIA
MINISTRY OF EDUCATION AND VOCATIONAL TRAINING
FORM TWO SECONDARY EDUCATION EXAMINATION, 2008

0034

AGRICULTURAL SCIENCE

TIME: 2 HOURS

INSTRUCTIONS

1. This paper consists of sections A and B.
2. Answer **ALL** questions.
3. Read carefully the instructions given under each section.
4. All answers must be written in the answer sheets provided.
5. Write your examination number at the top right hand corner of every page of your answer sheets.
6. All writing should be in blue/black ink.
7. Cellphones and calculators are not allowed in the examination room.

This paper consists of 06 printed pages

SECTION A (30 MARKS)

1. Write "TRUE" for a correct statement and "FALSE" for a statement that is not correct.

- (i) Hand hoes, sickles, forked hoes, planters and coping saws are examples of hand tools.
- (ii) The use of traditional tools with low investments and hence low output, are among the characteristics of subsistence farming.
- (iii) A nursery is a place where seeds are sown, raised and cared for before transplanting.
- (iv) Generative propagation is done by planting plant parts other than the seeds.
- (v) In the battery cage system of poultry keeping, many birds are kept in one room or house.
- (vi) Soil porosity is the percentage of the soil volume that is occupied by water and air.
- (vii) A mouldboard plough is a primary tillage implement.
- (viii) Candling is a process whereby eggs are tested for fertility and other defects within the yolk.
- (ix) Herbicides are sometimes known as insecticides.
- (x) Nitrogen, Phosphorus and Potassium are trace elements in the soil.

2. In the table below, set A is a list of classes of crops grown in Tanzania. Use the letters of examples of crops given in Set B to complete the phrases in Set A.

SET A	SET B
(i) Beverage crops <u>C</u>	A. beans and kapok
(ii) Cereal crops <u>B</u>	B. barley and maize
(iii) Fibre crops <u>F</u>	C. coffee and cocoa
(iv) Forage crops	D. cotton and kapok
(v) Fruit crops	E. hibiscus and roses
(vi) Medicinal crops	F. lucerne and stylo
(vii) Oil crops	G. vines and tangarine
(viii) Ornamental crops	H. mexico 142 and binti athumani
(ix) Spice crops	I. okra and cauliflower
(x) Vegetable crops	J. pepper and cardamon
	K. tobacco and beans
	L. pyrethrum and tobacco
	M. sunflower and simsim

3. Write down the letter of the correct answer.

- (i) A good intercropping practice comprises:
- A. beans and groundnuts
 - ☒ B. beans and maize
 - C. sorghum and cassava
 - D. sorghum and maize.
- (ii) The feedstuffs which are rich in either proteins or energy or both of them are known as:
- A. concentrates
 - ☒ B. roughages
 - C. succulents
 - D. vitamins.

- (iii) The farming system in which livestock owners move from one place to another is called:
A. mixed farming
☒ B. nomadic pastoral farming
C. settled farming
D. ranching.
- (iv) When people buy milk directly at the dairy unit the type of price they pay is known as:
☒ A. farmgate price
B. market price
C. retail price
D. shadow price.
- (v) The botanical name of cabbage is known as:
A. Allium cepa
B. Amaranthus hybridus
☒ C. Brassica oleraceae
D. Daucas carota.
- (vi) In areas with heavy rainfall, soils are usually poor in fertility due to:
A. infiltration
B. high evaporation rate
☒ C. leaching
D. percolation.
- (vii) Which of the following tools is not a carpentry tool?
A. Chisel
☒ B. Hacksaw
C. Jack plane
D. Rip saw.
- (viii) Which of the following is not caused by disease-causing organisms?
A. Coccidiosis
B. Fowl typhoid
C. Gumboro disease
☒ D. Toe pecking.
- (ix) The term "pore space" as used in Soil Science means:
A. liquid portion of the soil
B. non-liquid portion
☒ C. non-solid portion of the soil
D. solid portion of the soil.

- (x) A farm manager in Farming Business Economics is known as:
- A. casual labourer
 - B. consumer
 - ☒ C. entrepreneur
 - D. wholesaler.

SECTION B (70 MARKS)

4. Fill in the gaps in the text below with terms from the box provided.

abomasum, caecum, colon, crop, gizzard, non-ruminant, rumen, ruminant, omasum, reticulum.

With reference to digestive systems of farm animals, animals may be categorized as (i) and (ii) Farm animals like cattle, goats and sheep have four chambers of stomach. These chambers are (iii) (iv) (v) and (vi) In poultry the mechanical breakdown of feedstuffs takes place in the (vii)

5. Define the following terms as applied in Agricultural Science:

- (i) Concentrates
- (ii) Hay
- (iii) Weathering
- (iv) Incubation of eggs
- (v) Soil profile.

6. Briefly show the importance of the following agricultural practice:

- (i) Debeaking
- (ii) Thinning
- (iii) Top dressing
- (iv) Mulching
- (v) Buffer stocking.

Buffer stocking - is the state where by government buy some of commodity and place it in store as a result of oversupply of such commodity

7. (a) Briefly explain the term "equilibrium price" as used in Farming Business Economics.

(b) What do you understand by the term "factors of production"?

9. (a) Define the term "Supply".

Supply is the quantity of given commodity that producer are able to produce and are willing to offer for sale at a given price.

(b) List four factors that may cause a change in supply of agricultural products in your area.

(i) changes in the technology

(ii) occurrence of pest and disease

(iii) occurrence of natural calamities

(iv) climatic factor

(c) The supply of sugar fell from 300,000kg to 20,000 kg. As a results of this fall, the price rose from Tshs. 2000/= to 4000/= per kg. Calculate the elasticity of supply of sugar.

10. (a) Suppose you have been employed as an assistant extension officer in your village. Which cropping pattern will you recommend for each of the following crops?

(i) Maize

(ii) Paddy

(b) When looking after chicks, what do the following chick behaviours indicate?

(i) Staying away from lamp

(ii) Crowding together at the centre

(iii) Crowding at a corner

(iv) Staying evenly distributed throughout the floor of the brooder.