

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: 3 Hours

Year: 2022

Instructions

1. This paper consists of sections A, B and C with a total of **eleven (11)** questions.
2. Answer **all** questions in sections A and B and **one (1)** question from section C.
3. Section A and C carry **fifteen (15)** marks each and section B carries **seventy (70)** marks.
4. All writing must be in **black** or **blue** ink pen.
5. Cellular phones and any unauthorised materials are **not** allowed in the examination room.
6. Write your **Examination Number** on every page of your answer booklet(s).



SECTION A (15 Marks)

Answer **all** questions in this section.

1. For each of the items (i)-(x), choose the correct answer from the given alternatives and write its letter beside the item number in the answer booklet provided.
- (i) Why do you think making hay and silage is important in dairy cattle farming?
- A Hay and silage are very nutritious than green fodder.
 - B Hay and silage are very good in preventing bloat.
 - C Hay and silage can be used during dry season.
 - D Hay and silage are used for faltering dairy cattle.
 - E Hay and silage are very useful during the rainy season.
- (ii) Which factor influences soil formation by affecting the speed of physical and chemical weathering processes?
- A Climate
 - B Living organism
 - C Time
 - D Topography
 - E Parent material
- (iii) What is the use of a rip saw?
- A Cutting metals
 - B Cutting across wood grain
 - C Cutting along wood grain
 - D Sawing small works such as dovetail joints
 - E Cutting tenons for joining wood
- (iv) Which farm machine would you use for primary processing of sisal leaves?
- A Harvester
 - B Mower
 - C Roller
 - D Decorticator
 - E Pulper
- (v) Scientists do researches in finding a trust of some running. What is the first step to be done after setting an experiment?
- A Data interpretation
 - B Conclusion
 - C Formulating hypothesis
 - D Asking questions
 - E Observation and data recording
- (vi) Crop pests control methods have different mechanism actions. Which method is used to control pest by breaking their life cycles?
- A Biological method
 - B Cultural method
 - C Chemical method
 - D Mechanical method
 - E Legislative method
- (vii) Why is it recommended to use manure in the fish pond?
- A It encourages the development of natural foods for fish in the pond.
 - B It changes water colour for protection of fish.
 - C It fertilizes plants along the fish pond.
 - D It facilitates digestion of foods in the fish alimentary canal.
 - E It encourages growth of pastures along the fish pond.

(viii) Green manuring is a practice where by a crop is grown on the piece of land and is then incorporated into the soil for the purpose of improving soil fertility. Which of the following are qualities of a green manuring crop?

- (1) Should be able to grow in poor soil
 - (2) Should not be an alternative host of insect pests
 - (3) Should not compete with the crop for nutrients
 - (4) Should be perennial grasses
 - (5) Should be able to produce a large quantity of vegetative material
- A (1) and (3) B (2) and (3) C (3) and (4)
D (1) and (5) E (4) and (5)

(ix) Mr. Yona visited a dairy unit and decided to buy a litre of milk. Which type of price did he pay?

- A Import price B Farm gate price C Wholesale price
D Retail price E Export price

(x) What is the price of management as applied in production?

- A Rent B Capital C Wage
D Interest E Profit

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) Mating animals which are closely related.	A Upgrading
(ii) Mating of distantly related animals.	B Cross breeding
(iii) Mating unrelated animals of the same breed.	C Seasonal breeding
(iv) Mating of two animals of different breeds.	D In breeding
(v) Mating between the female animal of low grade stock with pure breed male.	E Line breeding
	F Outbreeding
	G Continuous breeding

SECTION B (70 Marks)

Answer **all** questions in this section.

3. In five points, justify the statement that "Agriculture still remains to be the backbone of Tanzania's economy as the majority of people live in rural areas and engage in crop and livestock production." (10 marks)

4. Land degradation is the most serious problem in many arable lands of Tanzania. Briefly explain any five human activities that facilitate land degradation. (10 marks)
5. (a) Differentiate the terms plant population and seed rate. (3 marks)
- (b) Most of the farmers think that, all crops are always planted at the same spacing. How can you change the mind of these farmers? Briefly explain by giving seven points. (7 marks)
6. (a) A soil analysis conducted at a certain village demonstration plot shows that, the soil is poor in nutrient contents. In five points, examine the causes of the loss of soil fertility. (5 marks)
- (b) Farm yard manure is the cheapest manure for farmers who practice mixed farming, however not all farmers manage to produce good quality of farm yard manure for crop products. Analyse five factors that influence the quality of farm yard manure. (5 marks)
7. Marketing of agricultural produce is one of the problems facing the farmers. Suggest five possible solutions to marketing problems facing the agricultural produce in Tanzania. (10 marks)
8. Despite having many advantages, goat farming is rarely practiced in Tanzania. By giving five points, educate people in Tanzania on the importance of keeping goats. (10 marks)
9. (a) Good management of farm working animals is necessary so as to achieve maximum output from oxen. Briefly explain five good management practices required for oxen for maximum output. (7 marks)
- (b) What are the necessary conditions for a successful oxenization in tropical areas? Give five points. (3 marks)

SECTION C (15 Marks)

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

10. Plant protein in human being can be obtained by eating common beans. However, there is still a shortage of beans to meet the demand in the market. Explain how you could raise the beans production from land preparation to harvesting stage. (15 marks)
11. Farm mechanization by draught animals is the cheapest for small scale farmers in Tanzania when compared with cultivation by using tractors. However, farmers are ignorant on how to train animals for farm operations. Explain six steps to be followed by farmers when training draught animals so that they can work appropriately. (15 marks)