



EXAMINATION NO.: _____
THE MALAWI NATIONAL EXAMINATIONS BOARD
2019 MALAWI SCHOOL CERTIFICATE OF EDUCATION EXAMINATION

AGRICULTURE

Subject Number: M012/II

Wednesday, 19 June

Time Allowed: 1½ hour sessions
10:00 am onwards

PAPER II

(40 marks)

Practical

Instructions

1. This paper contains 8 printed pages. Please check.
2. Answer all questions in the spaces provided. Marks are indicated against each part of the question.
3. Write your Examination Number on all pages.
4. In the table provided on this page, tick against the question number you have answered.
5. At the end of the examination, hand in your paper to the invigilator.

Question Number	Tick if answered	Do not write in these columns	
1			
2			
3			
4			

1. (Continued)

c. Profit / loss for Mr Zangazanga

(2 marks)

2. Table 1 shows the amount of milk in litres produced by each of the two breeds of cattle per lactation. Use it to answer the questions that follow.

Table 1

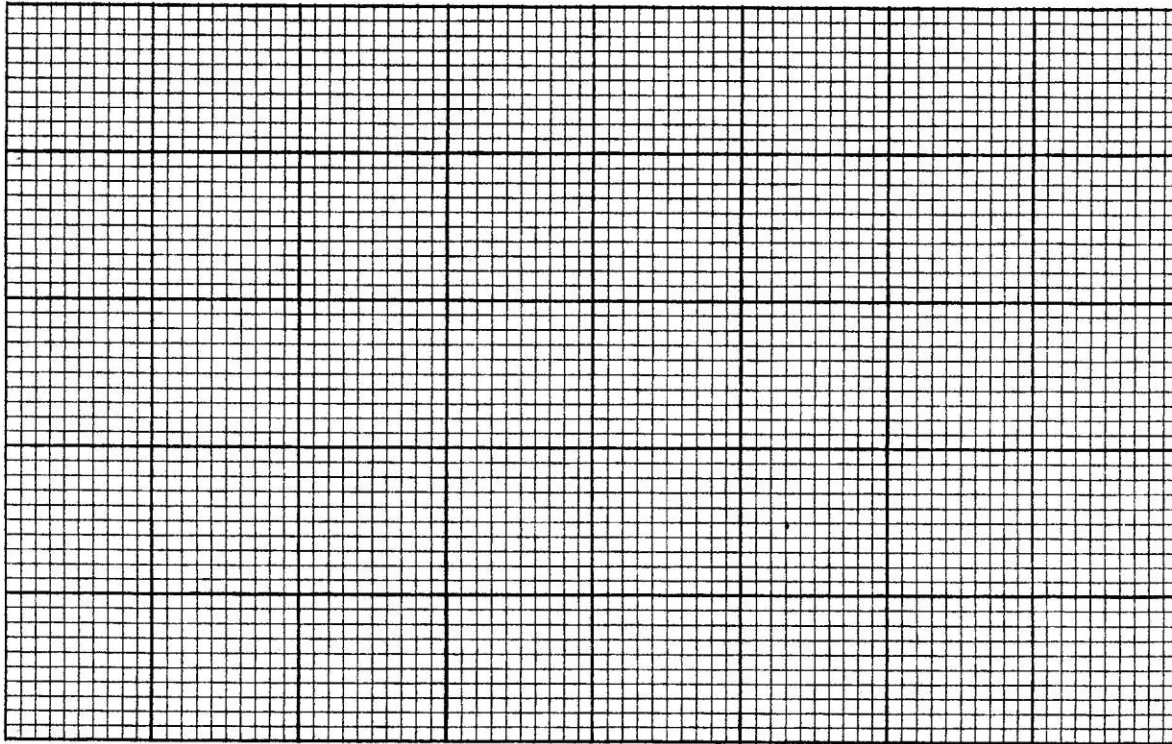
Number of lactations	Amount of milk produced per lactation	
	Breed A(local)	Breed B (Exotic)
1 st	70	120
2 nd	80	140
3 rd		160
4 th	100	
5 th	110	200

Continued/...

2. (Continued)

a. Plot a line graph for each breed.

(5 marks)

b. Using the graph calculate the amount of milk produced by breeds A and B for 3rd and 4th lactations respectively

(i) Breed A: _____

(ii) Breed B: _____

(4 marks)

Continued/...

2. (Continued)

- c. State any **one** way of improving milk production of breed A.

(1 mark)

Section B (20 marks)

3. You are provided with the following :

- Specimen labelled **Q**
- Scarpel / Knife
- Water in container
- Soil samples labelled **P** and **R**

Procedure

Using scarpel / knife, cut specimen **Q** longitudinally.

- a (i) Draw a longitudinal section of specimen **Q** and label any two parts.

(3 marks)

Continued/...

3. a. (Continued)

- (ii) Describe any **one** observable feature in specimen **Q** that would help it to survive in drought conditions.

(2 marks)

b. Add a few drops of water to soil samples **P** and **R**.

- (i) Using “feel method”, determine the textural classes of the soil samples **P** and **R**.

P: _____

R: _____

(2 marks)

- (ii) Which soil sample would be suitable for growing specimen **Q**?

(1 mark)

- (iii) Give a reason for the answer in 3b (ii)

(2 marks)

4. a. You are provided with the following:

- Two different types of fertilizer samples labelled **K** and **L**
- Distilled water in a wash bottle
- 2 leaves of litmus paper
- 4 beakers/ containers
- Sand soil
- Clay soil

Continued/...

4. b. (Continued)

(i) Observe and record the colour change of the litmus paper in Table 2.

- Repeat the procedure using clay soil
- Observe and record in the appropriate spaces in Table 2

Table 2

Soil sample	Colour change of litmus paper
Sand	
Clay	

(2 marks)

(ii) Determine the pH for each of the soil samples based on the observation in b (i).

(2 marks)

(iii) State any **one** way in which each of the soil pH would be corrected to maximize crop production.

(2 marks)

END OF QUESTION PAPER**This paper contains 8 printed pages.**