

Candidate Name

MATHS GUARDIOLA

Centre Number

+447852954215

Candidate Number



ZIMBABWE SCHOOL EXAMINATIONS COUNCIL
General Certificate of Education Ordinary Level

AGRICULTURE
PAPER 2

4001/2

NOVEMBER 2021 SESSION

2 hours

Additional materials:

Answer sheet,

Scientific calculator.

TIME 2 hours

INSTRUCTIONS TO CANDIDATES

Write your name, centre number and candidate number in the spaces at the top of this page and on all separate answer paper used.

Section A

Answer **all** questions.

Write your answers in the spaces provided on the question paper.

Section B

Answer **two** questions, one from each of Options 1 and 2.

Write your answers on the separate answer paper provided.

At the end of the examination, fasten the separate answer paper securely to the question paper.

FOR EXAMINER'S USE

Section A	
Section B	
TOTAL	

INFORMATION FOR CANDIDATES

The marks are given in brackets [] at the end of each question or part question.

You are advised to spend no longer than **80 minutes** on Section A.

This question paper consists of 10 printed pages and 2 blank pages.

Copyright: Zimbabwe School Examinations Council, N2021.

SECTION A [60 MARKS]

Answer **all** questions in this section.

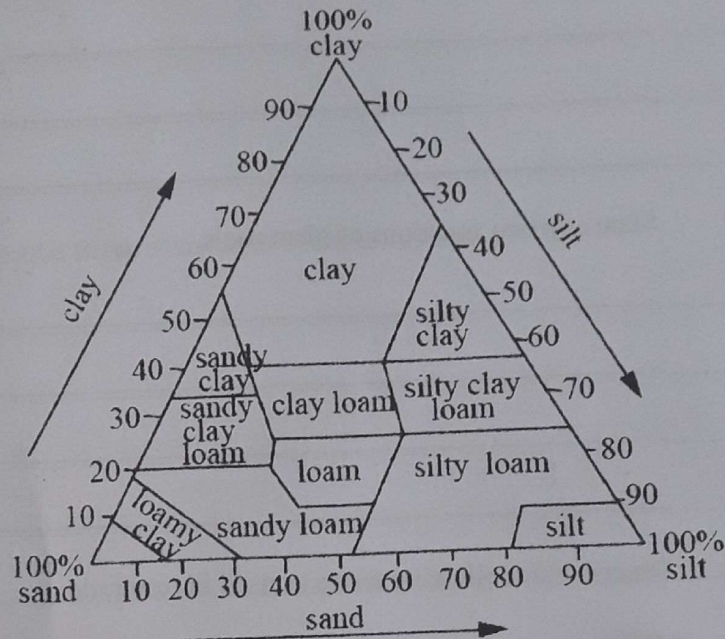
Candidates are advised to spend approximately **80 minutes** on this section.

- 1 (a) State **four** importance of the 3rd Chimurenga in Zimbabwe.
- _____
- _____
- _____
- _____ [4]
- (b) Give **four** measures for preventing veld fires.
- _____
- _____
- _____
- _____ [4]
- (c) Describe how a planting board is used in establishing a plantation.
- _____
- _____
- _____
- _____ [2]
- 2 (a) Identify any **two** ways of improving soil structure.
- _____
- _____
- _____
- _____ [2]

- (b) Describe any **two** ways of water harvesting.

[2]

- (c) Use a textural triangle to determine the textural class of the soils A, B and C.



Soil	Sand %	Silt %	Clay %
A	59	11	30
B	50	10	40
C	30	28	42

- (i) Identify the textural classes of the soil.

A

B

C

[3]

- (ii) Explain any **three** ways of dealing with problem animals in Zimbabwe.

[3]

- 3 (a) (i) State any **two** functions of plant roots.

[2]

- (ii) Describe the following terms as used in respiration:

aerobic,

anaerobic.

[2]

- (b) Explain any **three** importance of crop breeding.

[3]

- (c) Describe **three** advantages of haptotropism.

[3]

- 4 (a) State the part where the following processes take place in the female reproductive system of poultry :

- (i) fertilisation,

[1]

- (ii) formation of chalaza,

[1]

- (iii) formation of inner and outer membrane.

[1]

- (b) For a **named** ruminant animal, suggest classes of feeds which can be used to maintain body mass.

[3]

- (c) If a **PP** polled bull, mates with a **Pp** polled cow, what is the possible **F1** generation from this cross? Show all your working.

[4]

- 5 (a) Fig. 5 shows parts of a mouldboard plough. Identify parts labelled (A-D)

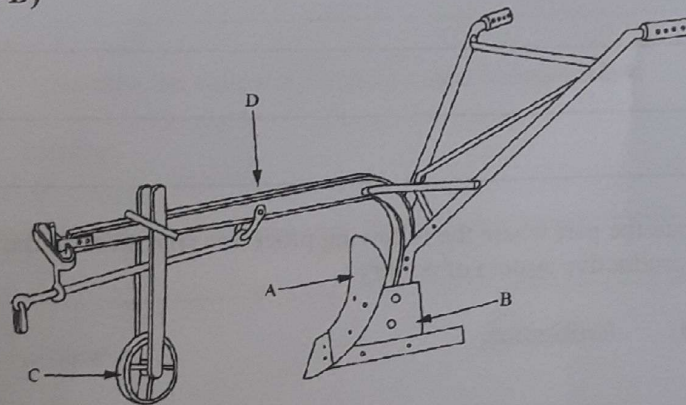


Fig. 5

Identify the parts labelled A-D

A

B

C

D

[4]

- (b) Explain any **four** properties of iron sheets used in roof construction of farm buildings.

_____ [4]

- (c) State the uses of the following parts of a harness:

(i) yoke shaft,

_____ [1]

(ii) reins.

_____ [1]

- 6 (a) The output for sorghum and maize in Zimbabwe improved during the 2016/17 agricultural season. Suggest any **four** factors contributing to the increase.

_____ [4]

- (b) Fig. 6 shows the relationship between feed consumed and growth rate of broilers.

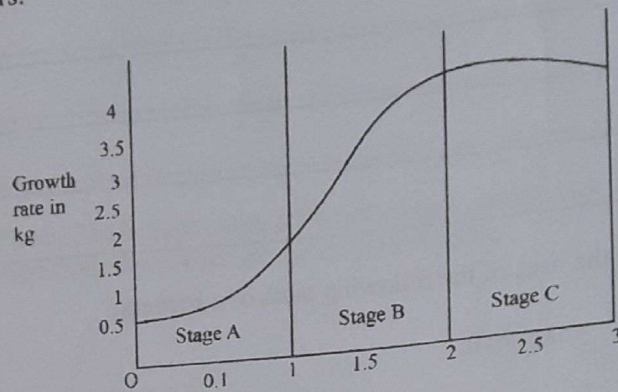


Fig. 6

- (i) Which stage in Fig. 6 is economically viable to sell broilers? [1]
- (ii) Why is the stage in (b)(i) the most appropriate? [1]
- (c) For either a pig or a donkey, design a breeding record.

[4]

SECTION B [40 MARKS]

Answer **two** questions only, **one** question from each of **option 1** and **option 2**

OPTION 1: CROP HUSBANDRY

- 7 (a) Describe the characteristics of viral and fungi diseases in crop production. [10]
- (b) Outline the importance of tropisms in crop growth. [10]
- 8 (a) Discuss the importance of land preparation in crop production. [7]
- (b) Assess the need for hybrid seeds in Agriculture. [5]
- (c) Describe any **four** methods of fertiliser application. [8]
- 9 (a) Describe the effects of the following groups of pests on crop production:
- (i) biting and chewing pests, [3]
- (ii) piercing and sucking pests, [3]
- (iii) boring pests. [2]
- (b) (i) Give the chemical equation of photosynthesis. [5]
- (ii) Explain the roles of chlorophyll, carbon dioxide, water and light in photosynthesis. [7]

OPTION 2: ANIMAL HUSBANDRY

- 10 (a) Discuss the use of maintenance and production rations in the rearing of a **named** farm animal. [8]
- (b) Discuss the advantages of using a deep litter housing system in the rearing of either a **donkey** or a **pig**. [7]
- (c) A farmer needs to construct a holding pen measuring **5 m × 3 m** with **four** strands of wire.
- Calculate the total cost of wire needed to construct the pen, given that the wire costs \$5 per meter. [5]

- 11 (a) Discuss the housing requirements for broilers during brooding. [8]
- (b) Explain the management practices for either **layers or rabbits**, [7]
- (c) A farmer has a deep litter system measuring $24\text{ m} \times 10\text{ m}$ and the stocking rate is 12 birds/m^2 .
- (i) Calculate the carrying capacity of the deep litter. [3]
- (ii) Assess effects of exceeding the required stocking density. [2]
- 12 (a) Describe factors considered when siting a housing unit for a **named** ruminant. [8]
- (b) Study the income and expenses incurred by Mr Dube on a chicken enterprise.
- Bought $2 \times 50\text{ kg}$ broiler starter mash at \$28 each
 Bought $6 \times 50\text{ kg}$ broiler finisher mash at \$25 each
 Bought 100, day old chicks at \$0,75 each
 Labour \$100,00
 Sold 95 broilers at \$6,00 each
- Calculate the farmer's gross margin. [7]
- (c) Evaluate the use of vaccines in controlling viral diseases in livestock. [5]