

2017

HIGHER SCHOOL CERTIFICATE
EXAMINATION

456

Centre Number

12345678

Student Number

Agriculture

Section I Part B
Answer Booklet

Student, Sample

60 marks

Attempt Questions 21–27

Allow about 1 hour and 45 minutes for this part

Instructions

- Answer the questions in the spaces provided. These spaces provide guidance for the expected length of response.
- Show all relevant working in questions involving calculations.
- Extra writing space is provided at the back of this booklet. If you use this space, clearly indicate which question you are answering.

Please turn over

Question 21 (6 marks)

The table shows the nutritional analysis of two livestock feeds.

	<i>Feed A</i>	<i>Feed B</i>
Energy content (MJ/kg)	10	10
Protein (%)	15	18
Fibre (%)	12	3
Fat (%)	0	3

- (a) Explain why *Feed A* would be more suitable than *Feed B* for feeding ruminant animals. 2

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- (b) For a named farm animal, explain why protein requirements are different at TWO different stages of the animal's life. 4

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Question 22 (7 marks)

- (a) Describe TWO techniques that farmers can use to improve or maintain soil organic matter (soil carbon) levels. **4**

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- (b) Name and describe a program where government and community groups work together to protect soils and/or water resources. **3**

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Question 23 (10 marks)

A trial was conducted to investigate the effect of day length on the growth of meat chickens. The features of this experiment are listed below.

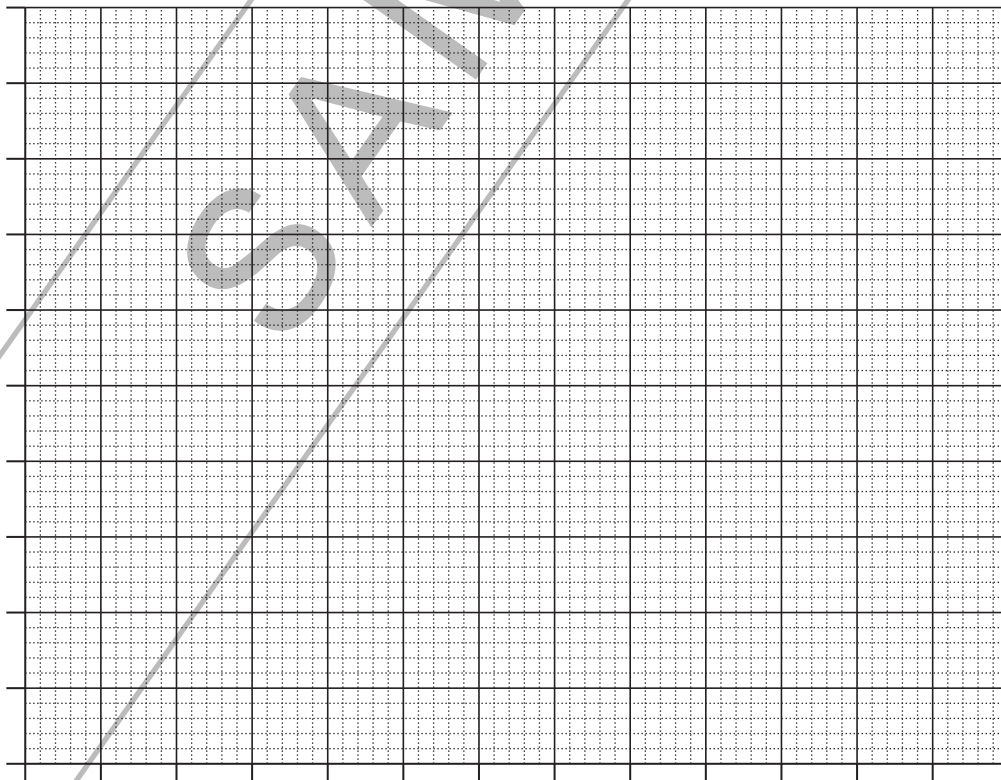
- Four similar sheds each housing 5000 chickens were used.
- Each shed received a different number of hours of light per day by using electric lights.
- The industry standard stocking rate of 30 kg/m² was used in each shed.
- Chickens in each shed received the same diet.
- After 48 days 100 chickens in each shed were randomly selected and weighed.
- The industry standard for day length was chosen as one of the treatments.

The results of the trial are shown in the table.

<i>Day length</i> (hours)	<i>Average weight</i> (kg)
14	3.2
17	3.5
20	3.5
23	3.1

- (a) Use the grid to construct a graph that represents the results of the trial.

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Question 23 continues on page 17

Question 23 (continued)

- (b) Identify the FOUR features of the trial that contributed to the standardisation of conditions. **4**

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- (c) Based on the trial outlined, propose a day length that could be recommended to chicken meat producers AND justify your choice. **3**

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End of Question 23

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Question 24 (11 marks)

(a) Identify sources of competition in crops.

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(b) Explain how a management strategy reduces competition in crops.

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(c) Explain how farmers can manage plant production systems to maximise photosynthesis. In your answer, give specific examples.

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Question 25 (6 marks)

For a named animal production system, describe ways that stress and/or harm to animals is minimised when performing TWO animal husbandry practices.

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Name of animal production system

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Question 26 (12 marks)

Answer parts (a), (b) and (c) in relation to an identified farm product.

Name of farm product

- (a) Outline an advertising or promotional campaign that is aimed at increasing consumption of this farm product. 2

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- (b) Explain the purpose of TWO named market specifications for this product. 4

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Question 26 continues on page 21

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Question 26 (continued)

(c) Explain how TWO management strategies can be used to improve the quality of this farm product.

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End of Question 26

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Question 27 (8 marks)

- (a) What are the benefits of vertical integration in the production and marketing of agricultural products? In your answer, provide an example.

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- (b) Explain how an increase in demand for a farm product may affect financial decisions made by farmers.

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Section I Part B extra writing space

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