

Name \_\_\_\_\_ Index No. \_\_\_\_\_

Candidate's Signature \_\_\_\_\_

Date \_\_\_\_\_

**443/1**  
**AGRICULTURE**  
**PAPER 1**  
**JULY / AUGUST 2021**  
**TIME: 2 HOURS**

## **GOLDEN ELITE EXAMINATION**

### **CYCLE 1**

**Kenya Certificate of Secondary Education**  
**AGRICULTURE**  
**PAPER 1**  
**2 HOURS**

#### **INSTRUCTIONS**

- (a) Write your name and index number in the spaces provided above.
- (b) Sign and write date of examination in the spaces provided above.
- (c) This paper consists of three sections A, B and C.
- (d) Answer all questions in section A and B.
- (e) Answer only TWO questions from section C.
- (f) Answer should be written in the spaces provided.

#### **FOR EXAMINER'S USE ONLY**

<b>SECTION</b>	<b>QUESTION</b>	<b>MAXIMUM SCORE</b>	<b>CANDIDATE'S SCORE</b>
A		30	
B		20	
C		20	
		20	
<b>TOTAL SCORE</b>		<b>90</b>	

*This paper consists of 12 printed pages*

**FOR MARKING SCHEMES INBOX 0724351706**

**SECTION A ( 30 MARKS )**

*Answer all the questions in the spaces provided in this section.*

1. List four importance of minimum tillage. ( 2 marks )

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- 2 Explain the term perishability as applied to vegetable crops. ( 1 mark )

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3. Give three reasons for rolling in crop production. ( 1 ½ marks )

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4. Give six physical methods of controlling pests. ( 3 marks )

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5. Give four reasons for earthing up irish potatoes. ( 2 marks )

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6. State two ways in which a farmer can improve the structure of a water-logged soil. ( 1 mark )

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7. List down four ways of modifying soil pH in the farm. ( 2 marks )

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8. What is changing cycle as used in coffee production. ( 1 mark)

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9. Distinguish between afforestation and reforestation. ( 1 mark )

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10. State two ways in which mulches control weeds. ( 1 mark )

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11. Explain the meaning of land reform. ( 1 mark)

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12. Give two methods used for seed-treatment of tree species before planting

**FOR MARKING SCHEMES INBOX 0724351706**

in agroforestry.

( 2 marks )

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13. State two effects of excess nitrogen in cereal crops.

( 1 mark )

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14. Give two tertiary operations in land preparation.

( 1 mark )

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15. State four advantages of rotational grazing.

( 2 marks )

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16. State four factors that determine the time of harvesting a crop.

( 2 marks )

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17. Name three branches of horticulture.

( 1 ½ marks )

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18. Name four items that a maize farmer would enter into his consumable inventory records.

( 2 marks )

**FOR MARKING SCHEMES INBOX 0724351706**

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19. State four beneficial effects of soil micro-organisms. ( 2 marks )

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**SECTION B**

*Answer all the questions in this section in the spaces provided.*

20. The figures shown below are illustrations of different weeds of arable land.



(a) Identify each weed. ( 1 mark)

W1 \_\_\_\_\_

W2 \_\_\_\_\_

(b) Explain why herbicides application is ineffective in controlling the weeds labeled W1. (2 marks )

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(c) State four economic importance of the weed labeled W2 to a cotton grower. ( 2 marks )

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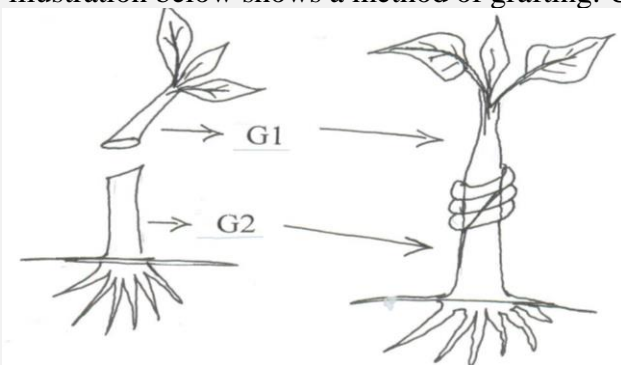
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21. (a) Design rotation programme of two seasons using the following crops; Maize, garden peas, kales and irish potatoes. (2 marks )

(b) The illustration below shows a method of grafting. Use it to answer the following questions.



(i) Identify the type of grafting. ( ½ mark )

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(b) State four pieces of information contained in a composite soil sample before it is taken to the laboratory. ( 4 marks )

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**SECTION C ( 40 MARKS )**

*Answer any TWO questions from this section in the spaces provide in each question.*

24. Describe beans (phaseolus vulgaris ) under the following sub-headings.
- (a) Ecological requirements. ( 4 marks)
  - (b) Varieties ( 4 marks )
  - (c ) Seedbed preparation ( 8 marks )
  - (d) Pests and diseases control. ( 4 marks )
25. (i) Explain the characteristics of a fertile soil. ( 8 marks )
- (ii) State advantages of farm mechanization. ( 4 marks )
- (iii) Explain four marketing problems faced by the agricultural industry and give ways of solving these problems. ( 8 marks )
26. (a) Outline five steps followed in land adjudication. ( 5 marks )
- (b) Explain five physical structures used to control soil erosion. ( 10 marks )
- (c ) Explain five marketing functions. ( 5 marks )

Name \_\_\_\_\_ Index No. \_\_\_\_\_

Candidate's Signature \_\_\_\_\_

Date \_\_\_\_\_

443/2  
AGRICULTURE  
PAPER 2  
JULY / AUGUST 2021  
TIME : 2 HOURS

## GOLDEN ELITE EXAMINATION CYCLE 1

**Kenya Certificate of Secondary Education**  
**AGRICULTURE**  
**PAPER 2**  
**2 HOURS**

### **INSTRUCTIONS**

- (g) Write your name and index number in the spaces provided above.
- (h) Sign and write date of examination in the spaces provided above.
- (i) This paper consists of three sections A, B and C.
- (j) Answer all questions in section A and B.
- (k) Answer only TWO questions from section C.
- (l) Answer should be written in the spaces provided.

### **FOR EXAMINER'S USE ONLY**

SECTION	QUESTION	MAXIMUM SCORE	CANDIDATE'S SCORE
A	1-17	30	
B	18-21	20	
C		20	
		20	
<b>TOTAL SCORE</b>		<b>90</b>	

*This paper consists of 14 printed pages*

*Turn Over*

### **SECTION A ( 30 MARKS )**

*Answer all questions in this section in the spaces provided.*

**FOR MARKING SCHEMES INBOX 0724351706**

1. Give three reasons for seasoning of timber before use. ( 1 ½ marks )

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2. Give two reasons why the use of water power is limited on most farms in Kenya. ( 1 mark )

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3. Name the current tools or equipment that are used for carrying out each of the following farm operations. ( 2 marks )

(i) For driving nails, riveting and making shallow grooves.

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(ii) For smoothening outside curves surfaces or edges of timber.

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(iii) For lifting seedlings during transplanting.

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(iv) For labelling the soil during seed bed preparation and removing trash.

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4. Give two maintenance practices that can be carried out on hammers. ( 1 mark )

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5. State the function of each of the following parts of a tractor engine. ( 1 mark )

(i) Thermostat

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(ii) Injector

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6. Give the name of the act of giving birth ( parturition) in the following species of animals. ( 1 ½ marks )

(i) Rabbits \_\_\_\_\_

(ii) Goats \_\_\_\_\_

(iii) Cattle \_\_\_\_\_

7. State 4 factors that may influence the choice of a poultry rearing system. ( 2 marks )

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8. Give three advantages of carrying out dry cow therapy in dairy farming. ( 1 ½ marks )

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9. State how each of the following livestock diseases can be controlled. ( 1 ½ marks )

(i) East Coast fever in cattle.

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(ii) Anthrax in cattle

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(iii) Foot rot in sheep

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10. State any four factors that would affect the digestibility of feed in livestock. ( 2 marks )

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11. State any four maintenance practices of a fish pond. ( 2 marks )

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12. Outline any four signs that will show that a cow is about to calve down. ( 2 marks )

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13. List any four harmful effects of keds infestation on sheep. ( 2 marks )

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14. (a) State two outstanding features of a jersey breed that make it suited to marginal areas than other dairy breeds. ( 1 mark )

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(b) Give two conditions that would necessitate the use of an ox-cart instead of a tractor – drawn trailer. ( 1 mark)

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(c) Give any four maintenance practices that should be carried out on an ox-drawn cart.

( 2 marks )

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15. Give two functions of a carburattor in a tractor engine.

( 1 mark )

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16. State four qualities of clean milk.

( 2 marks )

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17. Distinguish between the following practices as used in livestock production.

(a) Cropping and harvesting in fish farming.

( 1 mark)

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(b) Crutching and ringing in sheep management.

( 1 mark)

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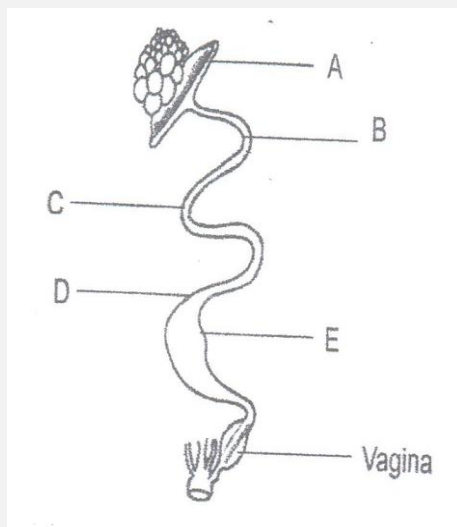
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**SECTION B ( 20 MARKS )**

*Answer all questions from this section in the spaces provided.*

18. The diagram below shows a reproductive system of a female bird ( domestic fowl). Study it carefully and answer the questions that follow.



- (a) Name the parts labeled A, B, C and E in the diagram above.

( 2 marks )

A \_\_\_\_\_  
B \_\_\_\_\_  
C \_\_\_\_\_  
E \_\_\_\_\_

- (b) State the functions of the parts labeled A, C, D and E in the process of egg formation in domestic fowl.

( 2 marks )

A \_\_\_\_\_  
\_\_\_\_\_  
C \_\_\_\_\_  
\_\_\_\_\_  
D \_\_\_\_\_  
\_\_\_\_\_  
E \_\_\_\_\_  
\_\_\_\_\_

(c) State what happens to the egg in the part labeled vagina in the diagram above before laying. ( 1 mark)

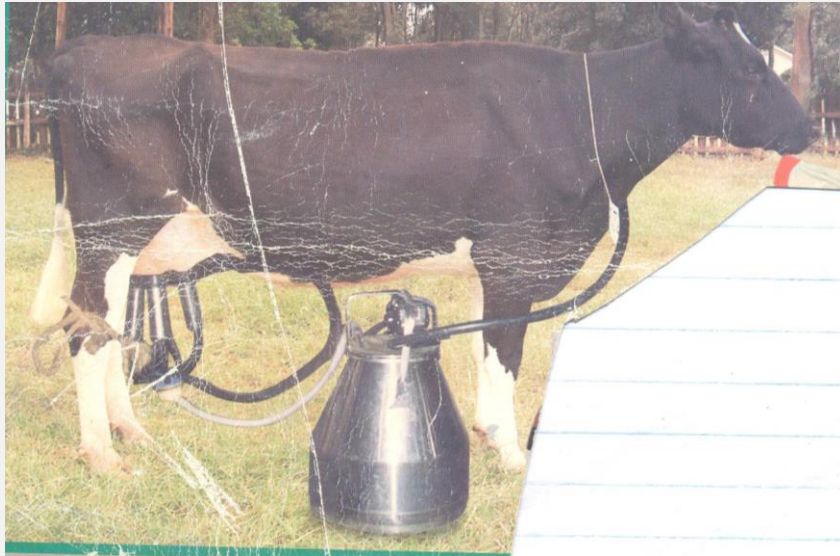
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19. Below is a photograph showing a process carried in the farm. Study it and answer the questions that follow.



(a) Name the practice illustrated in the photograph. ( 1 mark)

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(b) State two advantages of the method above over its alternative method. ( 2 marks )

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(c) Observing the photograph above, mention any three visible external characteristics that make it ideal for dairy. ( 3 marks )

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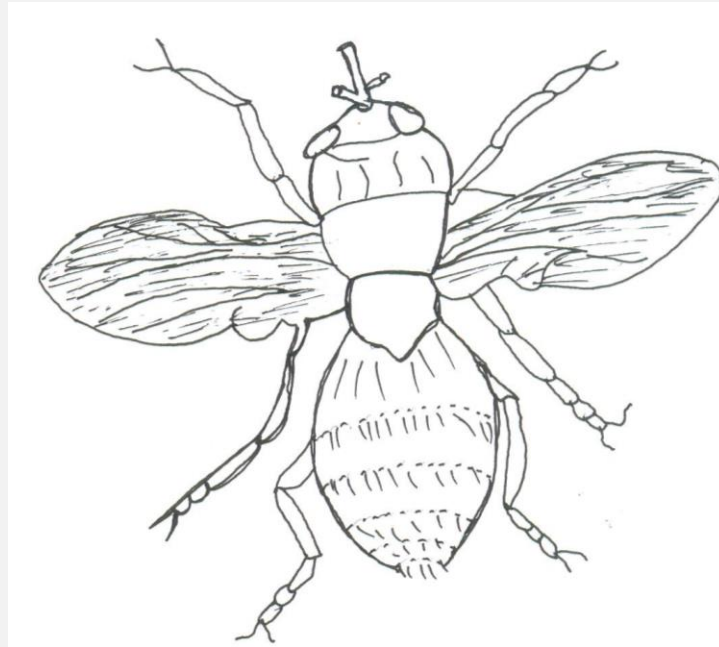
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20. The diagram below illustrates an ectoparasite. Study it and answer the questions that follow.



(a) Identify the parasite above. ( ½ mark )

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(b) State two harmful effects of the parasite above. ( 2 marks )

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(c) Name three other ectoparasites in the same class as the one above. ( 1 ½ marks )

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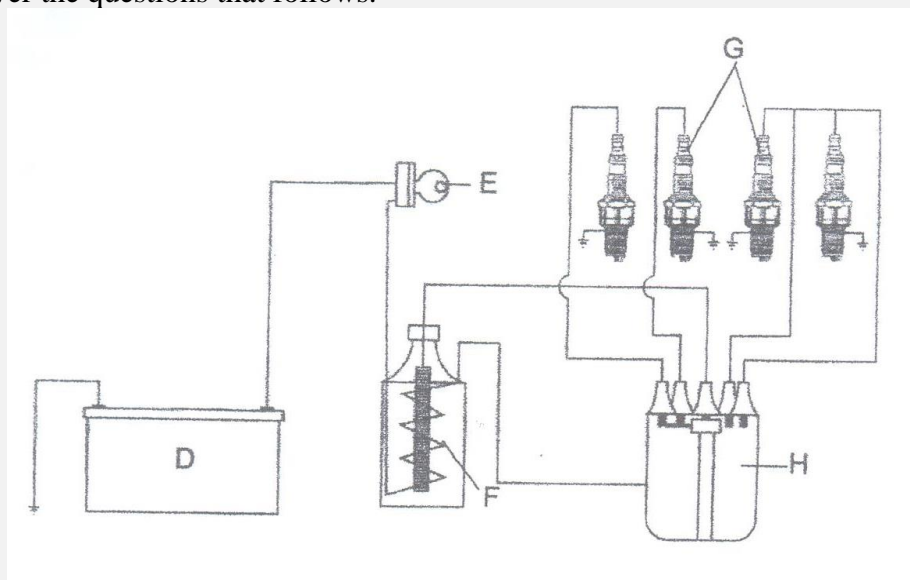
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21. The diagram below illustrate one of the systems of a tractor. Study it carefully and answer the questions that follows.



(a) Identify the system of a tractor represented by the diagram above. ( ½ mark )

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(b) Name the parts of the system labeled D, E, and H. ( 1 ½ marks )

D \_\_\_\_\_

E \_\_\_\_\_

H \_\_\_\_\_

(c) Give one function of each of the parts labeled F, G and H. ( 3 marks )

F \_\_\_\_\_  
\_\_\_\_\_

G \_\_\_\_\_

H \_\_\_\_\_  
\_\_\_\_\_

**SECTION C ( 40 MARKS )**

*Answer any two questions from this section.*

22. (a) Describe the life-cycle of three host tick. ( 6 marks )  
(b) State five disadvantages of live fences. ( 5 marks )  
(c ) Describe coccidiosis under the following  
(i) Symptoms ( 5 marks )  
(ii) Control measures. ( 4 marks )
23. (a) Explain ten management practices that should be carried out on a dairy cow during gestation period. ( 10 marks )  
(b) State and explain five predisposing factors for mastitis. ( 5 marks )  
(c ) Describe the factors that are considered when siting farm structures. ( 5 marks )
24. (a) Describe any five operational or functional differences between a mould board plough and a disc plough. (10 marks )  
(b) A dairy farmer in Wote would like to prepare a 100kgs ration of dairy meal containing 18% protein using maize grain with 8% protein and soya beans with 38% protein. Using pearsons square method calculate how much of each feed stuff would be required. ( 4 marks )  
(c ) State six advantages of keeping animals healthy. ( 6 marks )

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