

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

Candidate's signature \_\_\_\_\_

Date \_\_\_\_\_

**443/1**  
**AGRICULTURE**  
**PAPER 1**  
**JULY / AUGUST 2011**  
**2 HOURS**

**FORM IV MID YEAR CONTINUOUS ASSESSEMENT TEST**  
**AGRICULTURE**  
**PAPER 1**  
**2 HOURS**

**INSTRUCTIONS TO CANDIDATES**

- (a) Write your name and index number in the spaces provided above.
- (b) This paper consists of three sections A, B and C.
- (c) Answer all questions in sections A and B and any two questions in section C.
- (d) All answers should be written in the spaces provided.

**FOR OFFICIAL USE ONLY**

SECTION	QUESTIONS	MAXIMUM SCORE	CANDIDATES SCORE
A	1 – 18	30	
B	19 - 22	20	
C		20	
		20	
	TOTAL	90	

*This paper consists of 12 printed pages*

**Turn Over**

**SECTION A ( 30 MARKS )**

*Answer all the questions*

1. Define the term tipping as it is used in crop production. ( 1 mark )

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2. State four main characteristics of plantation. ( 2 marks )

- (i) \_\_\_\_\_
- (ii) \_\_\_\_\_
- (iii) \_\_\_\_\_
- (iv) \_\_\_\_\_

3. State 4 (four) influences of soil depth to crop production. ( 2 marks )

- (i) \_\_\_\_\_
- (ii) \_\_\_\_\_
- (iii) \_\_\_\_\_
- (iv) \_\_\_\_\_

4. State four reasons for processing farm products before marketing. ( 2 marks )

- (i) \_\_\_\_\_
- (ii) \_\_\_\_\_
- (iii) \_\_\_\_\_
- (iv) \_\_\_\_\_

5. Give two characteristics of fixed inputs. ( 1 mark )

- (i) \_\_\_\_\_
- (ii) \_\_\_\_\_

6. Give four methods of draining black cotton soils. ( 2 marks )

- (i) \_\_\_\_\_
- (ii) \_\_\_\_\_
- (iii) \_\_\_\_\_
- (iv) \_\_\_\_\_

7. Differentiate the following terms; pure stand and mixed stand pastures. ( 1 mark )

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8. List four factors that determine the number of soil tillage operations in seedbed preparations. ( 2 marks )

- (i) \_\_\_\_\_
- (ii) \_\_\_\_\_
- (iii) \_\_\_\_\_
- (iv) \_\_\_\_\_

9. Name four important entries in a muster roll. ( 2 marks )

- (i) \_\_\_\_\_
- (ii) \_\_\_\_\_
- (iii) \_\_\_\_\_
- (iv) \_\_\_\_\_

10. Outline the role played by trees in water and soil conservation. ( 2 marks )

- (i) \_\_\_\_\_
- (ii) \_\_\_\_\_
- (iii) \_\_\_\_\_
- (iv) \_\_\_\_\_

11. Name four factors that affect the efficiency of pesticides. ( 2 marks )

- (i) \_\_\_\_\_
- (ii) \_\_\_\_\_
- (iii) \_\_\_\_\_
- (iv) \_\_\_\_\_

12. State four agricultural practices that lead to water pollution. ( 2 marks )

- (i) \_\_\_\_\_
- (ii) \_\_\_\_\_
- (iii) \_\_\_\_\_
- (iv) \_\_\_\_\_

13. State four advantages of organic farming. ( 2 marks )

- (i) \_\_\_\_\_
- (ii) \_\_\_\_\_
- (iii) \_\_\_\_\_
- (iv) \_\_\_\_\_

14. Give two effects of low temperature on crop production. ( 1 mark )

- (i) \_\_\_\_\_
- (ii) \_\_\_\_\_

15. State two ways of lowering acidity in the soil. ( 1 mark )

- (i) \_\_\_\_\_
- (ii) \_\_\_\_\_
- (iii) \_\_\_\_\_
- (iv) \_\_\_\_\_

16. Name three reasons why bulbils make good planting materials than suckers. ( 1 ½ marks)

- (i) \_\_\_\_\_
- (ii) \_\_\_\_\_
- (iii) \_\_\_\_\_

17. Give three functions of sulphur in crops. (1 ½ marks )

- (i) \_\_\_\_\_
- (ii) \_\_\_\_\_
- (iii) \_\_\_\_\_

18. Name four marketing organizations and agencies. ( 2 marks )

- (i) \_\_\_\_\_
- (ii) \_\_\_\_\_
- (iii) \_\_\_\_\_

**SECTION B ( 20 marks )**

*Answer all the questions*

19. The diagrams labelled X and Z below illustrate some common weeds. Study the diagrams and answer the questions that follow.

Z X

(a) Identify the weeds. ( 2 marks )

X \_\_\_\_\_

Z \_\_\_\_\_

(b) State one harmful effect of each of the weeds X and Z in livestock production. ( 1 mark )

X \_\_\_\_\_

Z \_\_\_\_\_

(c ) Using observable features classify weed X and Z

\_\_\_\_\_

\_\_\_\_\_

(d) Give two cultural methods of controlling weeds. ( 1 mark )

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

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

20. The diagram below illustrates some of the common bean pests. Study the diagrams and answer the questions that follow.

A B C D

(a) Identify the pest labelled A, B, C and D. ( 2 marks )

A \_\_\_\_\_

B \_\_\_\_\_

C \_\_\_\_\_

D \_\_\_\_\_

(b) Name the part and stage of the crops growth when the pests labelled A, B, C and D attack. ( 4 marks)

A \_\_\_\_\_

B \_\_\_\_\_

C \_\_\_\_\_

D \_\_\_\_\_

(c) Give two methods of controlling B and C. ( 1 mark )

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

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

21. Study the diagram below of a planting material of sugarcane and answer the questions that follow.

K M L J

(a) Identify the parts labeled J, K, L and M. ( 2 marks )

J \_\_\_\_\_

K \_\_\_\_\_

L \_\_\_\_\_

M \_\_\_\_\_

(b) State the functions of the parts labeled J, K and L. ( 3 marks )

J \_\_\_\_\_

K \_\_\_\_\_

L \_\_\_\_\_

22. The diagrams labelled Q and S below illustrate some types of erosion. Study the diagrams carefully and answer the questions that follow.

(a) Identify the methods of soil erosion in Q and S. ( 1 mark )

Q \_\_\_\_\_

S \_\_\_\_\_

(b) A part from the above method of soil erosion represented by Q and S name any other two methods of soil erosion. ( 1 mark )

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

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

(c) State two common methods of controlling soil erosion in Q and S. ( 1 mark )

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

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

### SECTION C

*Answer any two questions from this section.*

23. (a) The following is a list of financial transactions and position of Mr. Kiprono's farms in the year 2005. Study the information carefully and answer the questions that follow.

Coffee sales	7,000.00
Sales of sheep	3,000.00
Closing valuation	15,000.00
Purchases of fertilizer	1,600.00
Veterinary bills	1,300.00
Milk sales	3,000.00
Wages	2,400.00
Interest payable	650.00
Depreciation of machinery	2,700.00
Purchase of hand hoe	500.00
Construction of crush	300.00
Purchase of dairy meal	800.00
Purchase of fungicides	200.00
Opening valuation	12,100.00

(i) Prepare a profit and loss account for Mr. Kiprono's farm.

( 11 mark )

(ii) Did the farm make a profit or a loss.

( 1 marks )

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(iii) Calculate the percentage profit or a loss.

( 2 marks )











**FORM IV MID YEAR CONTINUOUS ASSESSEMENT TEST**  
**AGRICULTURE**  
**PAPER 1**

**MARKING SCHEME**

**SECTION A 30 MARKS**

1. Tipping is the cutting back of shoots to the desired table height. 1 x 1 = 1 mark
  
2. Large scale farming.  
Production of one crop.  
Highly mechanized.  
There is specialization. ( 4 x ½ = 2 marks )
  
3. - Crop type to be cultivated  
- The method of land cultivation.  
- Moisture holding capacity / retention capacity.  
- Root penetration.  
- Drainage / aeration of the soil.  
- Quantity of nutrients in the soil. (Any 4 x ½ = 2 marks )
  
4. - Make them less bulky.  
- Remove toxins.  
- Add other ingredients for taste.  
- Get by-products e.g sugar and molasses.  
- Increases its market value.  
- Improve keeping quality / shelf life  
- Change it to the form useful to the consumer ( Any 2 x ½ = 1 mark )
  
5. - The quantity used does not vary with the level of production.  
- They are not allocated to specific enterprise  
- The cost value is not used in calculation of gross margin. ( Any 2 x ½ = 1 mark )
  
6. - Open ditches.  
- Under ground drain pipes.  
- French drains.  
- Combered beds.  
- Pumping.  
- Planting trees ( Any 4 x ½ = 2 marks )
  
7. Pure stand pasture have either grass or legume on them while mixed stand pastures have both grasses and legumes grown together.

Mark as a whole 1 x 1 = 1 mark )

*This paper consists of 6 printed pages*

**Turn Over**

8. - Size of the plant material.  
 - Moisture content of the soil.  
 - Conditions of the land after other operations.  
 - Implements available  
 - Type of soil  
 ( Any 4 x ½ = 2 marks )
9. - Name of the worker  
 - Pay roll number  
 - Days worked  
 - Rate of payment  
 - Amount of salary or wage  
 - Signature of the worker.  
 ( Any 4 x ½ = 4 marks )
10. (i) Acts as wind breakers thus reducing splash erosion  
 (ii) Fallen and decayed leaves help to improve the soil structure, increase water holding capacity and retention capacity.  
 (iii) Trees create a microclimate for rainfall formation.  
 (iv) Tree roots bind soil particles together reducing the soil erosion  
 (v) Trees reduce the speed and volume of surface run-off by encouraging infiltration.  
 ( Any 4 x ½ = 2 marks )
11. - Concentration of pesticide  
 - Time of application  
 - Weather conditions  
 - Persistence of pesticide.  
 ( Any 4 x ½ = 2 marks )
12. - Use of inorganic fertilizers.  
 - Use of pesticides.  
 - Poor cultivation practices.  
 - Over stocking.  
 ( Any 4 x ½ = 4 marks )
13. - Improves soil structure.  
 - Replenish soil nutrients.  
 - Enhances soil water infiltration and retention.  
 - Provides food for the soil microbes.  
 - Avoids inorganic chemicals residues.  
 - Avoids all forms of pollution that may result from other Agricultural technique.  
 ( Any 4 x ½ = 2 marks )
14. - Slow growth rate of crops as the process of photosynthesis is slowed.  
 - High incidences of disease infection to crops such as Elgon die back, CBD etc  
 - Quality of the crop such as tea and pyrethrum improves with the low temperature.  
 ( Any 2 x ½ = 1 mark )
15. - Application of lime.  
 - Application of a basic fertilizer.  
 - Soil drainage.  
 ( Any 2 x ½ = 1 mark )

16. - Small in size hence portable  
 - Establish uniformly  
 - Can be raised in a nursery and later transplanted.  
 - More readily available than suckers  
 ( Any 3 x ½ = 1 ½ marks)
17. - Synthesis of amino acids (protein synthesis )  
 - Formation of plant hormones.  
 - Carbohydrate metabolism and nitrogen fixation by legumes.  
 ( Any 3 x ½ = 1 ½ marks)
18. - Whole sellers  
 - Retailers  
 - Itinerant traders  
 - Packers and processors  
 - Commission agents  
 - Brokers agents  
 ( Any 4 x ½ = 2 marks)

**SECTION B 20 MARKS**

19. (a) (i) X – Devils horse whip  
 (ii) Z – Thorn apple  
 ( 2 x 1 = 2 marks )
- (b) X – Is irritating to livestock  
 Z – Is poisonous to livestock  
 (Any 2 x ½ = 1 mark )
- (c) - Broad leaved  
 - Annual weeds  
 ( Any 2 x ½ = 1 mark )
- (d) - Flooding  
 - Crop rotation  
 - Mulching  
 ( Any 2 x ½ = 1 mark )
20. (a) A – American boll worm (field pest)  
 B – Bean weevil (storage pest)  
 C – Bean bruchid ( storage pest)  
 D – Bean aphid ( field pest )  
 ( 4 x ½ = 2 marks )
- (b) A – Attacks leaves at early stage of growth  
 B – Attacks dry seeds in the field or storage  
 C – Attacks dry seeds in the field or storage  
 D – Attacks green leaves and pods in the field  
 (4 x 1 = 4 marks )
- (c) - Drying the seeds properly before storage.  
 - Cleaning or winnowing seeds before storage.  
 - Cleaning and dusting the storage.  
 - Dusting the bean seeds with appropriate chemicals before storage.  
 ( Any 2 x ½ = 1 mark )

21. (a) J – Adventitious roots  
K – Bud  
L – Node  
M – Internode ( Any 4 x ½ = 2 marks )
- (b) J – Anchors the plant / absorbs water and nutrients.  
K – Grows into a new shoot.  
L – Where buds / adventitious roots arise. ( Any 3 x 1 = 3 marks )
22. (a) Q – Rill erosion  
S – Sheet erosion ( Any 2 x ½ = 1 mark )
- (b) Gully erosion, splash erosion, river bank erosion. ( 2 x ½ = 1 mark )
- (c) (i) Contour farming  
(ii) Trash or stone lines  
(iii) Grass strips / filter strips  
(iv) Mulching  
(v) Bunds  
(vi) Cover cropping ( Any 2 x ½ = 1 mark )

**SECTION C 40 MARKS**

23. Profit and Loss Account for Mr. Kiprono's farm as at 31-12-2005			
Purchases and expenses		Income and sale	
Opening valuation	12,100.00	Coffee sales	7,000.00
Purchases of fertilizer	1,600.00	Sheep sale	3,000.00
Verterinary bills	1,300.00	Milk sales	3,000.00
Wages	2,400.00	Closing valuation	15,000.00
Interest payable	650.00		
Depreciation of machinery	2,700.00		
Purchase of hand hoe	500.00		
Construction of crush	300.00		
Purchase of dairy meal	800.00		
Purchase of fungicide	200.00		
Total	22,550.00		
Profit	5,450.00		
	28,000		28,000

- Statement 1 mark  
Purchase and expenses title 1 mark  
Profit entry 1 mark  
Correct totals 1 mark  
Each correct entry ½ mark x 14 = 7 marks
- (i) Yes / a profit of 5,450 ( 1 mark )



(ii)  $\frac{5450}{28,000} \times 100 = 19.5\%$  ( 2 marks )

24. (a) (i) - Weeding – clean weeding, shallow weeding, hand weeding  
- Irrigation – Needs 50mm of water per week  
- Pest and disease control – Spray insecticides  
- Top dressing - application of nitrogenous fertilizers before flowering.  
( Any 4 x 1 = 4 marks \_

(ii) Harvesting

- Uprooting dry beans for seeds
- Done in the morning in cool weather to avoid shattering.
- Spread on tarpaulins, mats, sacks for further drying.
- Beaten with sticks to remove the seeds from the pods.
- Winnowing is done to recover seeds from pods and stems.
- Sorting is done to remove damaged seeds.

( Any 4 x 1 = 4 marks )

- (b) - Type of machinery to be used.  
- Soil fertility.  
- Size of the plant at maturity.  
- Use of the crop  
- Pest and disease control.  
- Growth habit of the crop.  
- Soil moisture

7 x 1 = 7 marks

- (c) - Crops make maximum use of rainfall and suitable soil temperature leading to vigorous growth  
- Crops usually escape serious pest and disease attack.  
- Crops benefit from nitrogen flush which is available at the beginning of the rain.  
- For horticultural crops, proper timing ensures that the produce is marketed when prices are high.  
- Crops establish earlier than weeds, hence smothering them.

( Any 5 x 1 = 5 marks )

25. (a) - Nitrogenous fertilizers  
- Phosphatic fertilizers  
- Potassic fertilizers

( Any 2 x 1 = 2 marks )

- (b) - Broadcasting – Random scattering of fertilizers on the ground for plant use  
- Placement method – Application of the fertilizer in the planting holes or drills.  
- Side dressing – Placement of nitrogenous fertilizer at the side of the crop being top dressed.  
- Foliar spraying – Application of specially formulated fertilizer solution onto the foliage of the crop  
- Drip – Fertilizer is dissolved and applied to individual plants through perforated pipes or bottles.

( Any 4 x 2 = 8 marks )

- (c) - Monocropping. This is cultivating one type of crop for a long period of time. The crop exhausts particular minerals making the soil infertile to that particular crop.
- Continuous cropping This leads to continuous removal of crop materials from the soil. This removes minerals from the soil .
- Soil erosion Carries away top fertile soil leading to loss of minerals
- Accumulation of salts. This is due to high evaporation rate and low amounts of rainfall. Soils become saline hence cannot support crop growth properly.
- Excessive soil disturbance This destroys soil structure.

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

Candidate's signature \_\_\_\_\_

Date \_\_\_\_\_

**443/2**  
**AGRICULTURE**  
**PAPER 2**  
**JULY / AUGUST 2011**  
**2 HOURS**

**FORM IV MID YEAR CONTINUOUS ASSESSEMENT TEST**  
**AGRICULTURE**  
**PAPER 2**  
**2 HOURS**

**INSTRUCTIONS TO CANDIDATES**

- (a) Write your name and index number in the spaces provided above.
- (b) This paper consists of three sections A, B and C.
- (c) Answer all questions in sections A and B and any two questions in section C.
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SECTION	QUESTIONS	MAXIMUM SCORE	CANDIDATES SCORE
A	1 – 18	30	
B	19 - 22	20	
C		20	
		20	
	TOTAL	90	

*This paper consists of 12 printed pages*

**Turn Over**

**SECTION A ( 30 MARKS )**

*Answer all the questions*

1. Define the terms bullock. ( ½ mark )

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2. Give functional difference between the following tools.  
(a) Cross-cut saw and a rip-saw. ( 1 mark )

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(b) Spirit level and a plumb bob. ( 1 mark )

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3. Name any three dual purpose sheep breed. ( 1 ½ marks)

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

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

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

4. Give three physiological adaptations of a dromedary camel to its environment. ( 1 ½ marks)

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

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

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

5. List four functions of rumen. ( 2 marks )

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

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

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

(iv) \_\_\_\_\_

6. Name two diseases in livestock that may be spread through breeding. ( 1 marks )

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

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

7. State four advantages of using concrete blocks as building materials. ( 2 marks )

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

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

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

(iv) \_\_\_\_\_

8. List any two implements which are connected to both the P.T.O and the hydraulic system of a tractor. ( 1 mark )
- (i) \_\_\_\_\_
- (ii) \_\_\_\_\_
9. (a) Mention the nutrient whose deficiency results to the following disorder. ( 1 marks )
- (i) Pica \_\_\_\_\_
- (ii) Parakeratosis \_\_\_\_\_
- (b) Name three pre-disposing factors to foot rot disease in sheep. (1½ marks)
- (i) \_\_\_\_\_
- (ii) \_\_\_\_\_
- (iii) \_\_\_\_\_
10. Outline four measures that can be carried out to control egg eating in deep litter method of rearing poultry. ( 2 marks )
- (i) \_\_\_\_\_
- (ii) \_\_\_\_\_
- (iii) \_\_\_\_\_
- (iv) \_\_\_\_\_
11. State four signs of infertility in cows. ( 2 marks )
- (i) \_\_\_\_\_
- (ii) \_\_\_\_\_
- (iii) \_\_\_\_\_
- (iv) \_\_\_\_\_
12. Name any two tools used in dehorning. ( 1 mark )
- (i) \_\_\_\_\_
- (ii) \_\_\_\_\_
13. List any four factors that make the *Bos indicus* better adapted in the tropics than *Bos Taurus*. ( 2 marks)
- (i) \_\_\_\_\_
- (ii) \_\_\_\_\_
- (iii) \_\_\_\_\_
- (iv) \_\_\_\_\_
14. List any four qualities of a creep feed. ( 2 marks )
- (i) \_\_\_\_\_
- (ii) \_\_\_\_\_
- (iii) \_\_\_\_\_
- (iv) \_\_\_\_\_

15. Give four control measures of liver flukes in livestock. ( 2 marks )
- (i) \_\_\_\_\_
  - (ii) \_\_\_\_\_
  - (iii) \_\_\_\_\_
  - (iv) \_\_\_\_\_
16. State three factors which influence the variation of the rate of respiration in various farm animals. (1½ marks)
- (i) \_\_\_\_\_
  - (ii) \_\_\_\_\_
  - (iii) \_\_\_\_\_
17. List three chemical methods of treating timber. (1 ½ marks)
- (i) \_\_\_\_\_
  - (ii) \_\_\_\_\_
  - (iii) \_\_\_\_\_
18. State four precautionary measures in handling and caring of vaccines. ( 2 marks)
- (i) \_\_\_\_\_
  - (ii) \_\_\_\_\_
  - (iii) \_\_\_\_\_
  - (iv) \_\_\_\_\_

**SECTION B**

19. Below is a diagram of a piece of a farm equipment. Study it and answer the questions that follow.

(i) Identify the above equipment . ( 1 mark )

\_\_\_\_\_

(ii) Name the parts labeled A and B. ( 1 mark )

A \_\_\_\_\_

B \_\_\_\_\_

(iii) Other than the above implement list any other 2 implements used for similar purpose. ( 2 marks )

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

20. Below is a diagram of a digestive system of an animal. Study it and answer questions that follow.

(a) Name the parts labeled A, B, C and D. ( 2 marks )

A \_\_\_\_\_

B \_\_\_\_\_

C \_\_\_\_\_

D \_\_\_\_\_

(b) State one function of the following parts. ( 2 marks )

A \_\_\_\_\_

B \_\_\_\_\_

( c ) Give one reason as to why part labeled D is long / large. ( 1 mark )

\_\_\_\_\_  
\_\_\_\_\_

21. Below are some farm tools. Study them and answer the questions which follow.

K L M

(a) Identify the tools labeled K, L and M.

( 1 ½ marks)

K \_\_\_\_\_

L \_\_\_\_\_

M \_\_\_\_\_

(b) Explain the functional use of the following farm tools.

(i) Ball pein hammer.

( 1 mark )

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(ii) Mallet

( 1 mark )

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(c) State three maintenance activities carried out on a knapsack sprayer.

( 1 ½ marks)

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22 . Study the following diagram and answer the questions that follow.

A B C Roof

(a) Identify the above structure \_\_\_\_\_ ( ½ mark )

(b) Label parts A, B and C. ( 1 ½ marks )

A \_\_\_\_\_

B \_\_\_\_\_

C \_\_\_\_\_

( c ) State one function of parts A and C. ( 2 marks )

A \_\_\_\_\_

C \_\_\_\_\_

(d) Give two maintenance practices for the above structure. ( 2 marks )

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**443/2**  
**AGRICULTURE**  
**PAPER 2**  
**JULY / AUGUST 2011**

**FORM IV MID YEAR CONTINUOUS ASSESSEMENT TEST**  
**AGRICULTURE**  
**PAPER 2**

**MARKING SCHEME**

1. - Bullock is a mature castrated male cattle.
2. (a) Cross cut saw is used for cutting across the grains of wood while a rip saw is used to cut along the grains of wood. ( 1 mark )  
(b) Spirit level and a plumb bob: Spirit level used for checking whether a surface is vertical or horizontal while a plumb bob is used for checking whether a tall wall is vertical. ( 1 mark )
3. - Romney marsh  
- Corriedale  
- Hampshire down ( 1 ½ marks )
4. - Has long legs making it easy to walk in desert sandy soil.  
- Has long thin neck to reduce resistance of wind when walking in desert windy environment.  
- Has large eye lashes to protect eye from entry of desert dusts and soil.  
- Has flat hooves for easy walking in the desert.
5. - Temporary storage of food.  
- Contains micro-organisms which break carbohydrates.  
- Produce volatile fatty acids.  
- Produce vitamin B complex through microbial action.  
- Helps in moistening of the food ( 2 marks )
6. - Brucellosis  
- Trichomoniasis  
- Vaginitis  
- Scrotal hernia ( 2 x ½ = 1 )
7. - Durable  
- Resistant to fire  
- Resistant to insect attack  
- Can resist damage by weather elements  
- Not able to rot. ( 4 x ½ = 2 marks )

*This paper consists of 5 printed pages*

*Turn Over*

8. - Mower  
- Planter  
- Rotavator  
- Sprayers ( 2 x ½ = 1 mark )
9. (a) (i) Pica – Lack of phosphorous and calcium ( ½ mark )  
(ii) Parakeratosis – Lack of zinc. ( ½ mark )
- (b) - Overgrown hooves / Elongated hooves  
- Wet / muddy soils  
- Injuries in hooves  
- Sharp objects in pastures ( 3 x ½ = 1 ½ marks)
10. - Regular egg collection  
- Keep birds busy  
- Provide balanced diet  
- Darken the laying boxes  
- Provide enough laying boxes ( 4 x ½ = 2 marks )
11. - The cow does not conceive after several services.  
- No heat signs  
- The cow has prolonged heat signs  
- The cow produces abnormal discharge from the vulva. ( 4 x ½ = 2 marks )
12. - Dehorning iron  
- Dehorning wire ( 2 x ½ = 1 mark )
13. - Have humps that store fat which is broken down for energy and water in times of starvation  
- Are fairly tolerant to high temperatures.  
- Have high tolerance to tropical diseases e.g trypanosomiasis  
- Can walk for long distances in search of food and water without affecting their production.  
- Can stay for long without water. ( 4 x ½ = 2 marks )
14. - Highly digestible  
- High in energy value  
- Highly palatable  
- Have high content of digestible crude protein  
- Rich in minerals e.g iron  
- Able to supply vitamin A, B complex and D. ( 4 x ½ = 2 marks )
15. - Control of fresh water snail it's the intermediate host.  
- Physically killing fresh water snails.  
- Adding copper sulphate solution to stagnant water.  
- Drainage of swampy areas  
- Burning pastures during dry season  
- Routine drenching of livestock with antihelminth e.g sodium sulphate. ( 4 x ½ = 2 marks )



16. - The body size of the animal  
 -The amount of activity done by the animal.  
 - The degree of excitement  
 - The ambient / environmental temperature. ( 3 x ½ = 1 ½ marks )
17. - Sap displacement method  
 - Pressure vacuum treatment  
 - Hot and cold soaking ( 3 x ½ = 1 ½ marks )
18. - Vaccines should be kept under freezing temperatures of between -20<sup>0</sup>C to 4<sup>0</sup>C  
 - Vaccination equipment should be sterilized usually by boiling only.  
 - Correct dosage should be adhered to.  
 - The route of administration should be correct. ( 4 x ½ = 2 marks )
19. (i) Disc harrow. ( 1 mark )
- (ii) A – Land wheel  
 B – Beam frame ( 2 x ½ = 1 mark )
- (iii) - Spring tine harrows  
 - Spike tooth harrows  
 - Spring loaded tine harrows. ( 2 x 1 = 2 marks )
20. (a) A – Crop  
 B – Gizzard  
 C – Proventriculus ( True stomach )  
 D - Caecum ( Each ½ mark = 2 marks )
- (b) A - Store food temporarily  
 - Moisten food with water ( 2 x 1 = 2 marks )
- B - Crush and grind food into paste. ( 1 x 1 = 1 mark )
- (c) Contain micro-organisms that digest cellulose.
21. (a) K – Sledge hammer  
 L – Wrecking axe / claw axe  
 M – Mason’s hammer ( 3 x ½ = 1 ½ marks )
- (b) (i) - Riveting and striking the head of cold chisel  
 - Straighten bent metal surfaces ( Any 1 x 1 = 1 mark )
- (ii) - Striking wood chisel ( 1 x 1 = 1 mark )
- (c) - Clean the nozzle  
 - Repair any broken part / replace broken part  
 - Wash the tank after use with fresh water ( 3 x ½ = 1 ½ marks )

22. (a) - Plunge dip ( 1 x ½ = ½ mark )
- (b) A – Foot bath  
B – Jump / Rump  
C – Drainage race ( 3 x ½ = 1 ½ marks )
- (c) A - Washing off dirt from the hooves  
- Disinfecting the feet ( 1 x 1 = 1 mark )
- C - Drain off excess acaricide from the animals body  
- Can serve as a crush ( 1 x 1 = 1 mark )
- (d) - Replacing broken timber rails  
- Cleaning the dip tank to remove sediments  
- Repairing cracks in the various parts of the dip tank.  
- Repairing the roof to prevent leakage of rainwater which may dilute the dip wash  
- Painting the dip sections  
- Replace the water and disinfectant in the foot bath. ( 2 x 1 = 2 marks )

### **SECTION C**

23. (a) - Source of food – animal products like meat, milk are used as food.  
- Source of energy - Animal dung is used to generate biogas used for domestic activities e.g lighting, cooking etc  
- Source of income – when products of animals are sold or the livestock they create income  
- Source of raw materials – Products like skin / hide can be used in leather industries.  
- Provision of farm power – Animal like oxen can be used to provide power in the farm  
- Provision of organic manure  
- Cultural uses e.g payment of dowry, slaughtered during ceremonies  
5 x 2 = 10 marks
- (b) - Maturity should be of appropriate age of 6-7 months.  
- Good mothering ability.  
- Should be fast growing to reach maturity early.  
- Should have good body conformation.  
- Should be free from physical defects.  
- Should be healthy.  
- Should have ability to withstand various stresses e.g during heat in livestock.  
( 6 x 1 = 6 marks )
- (c) - Cross breeding  
- Upgrading  
- Inbreeding  
- Out crossing  
( 4 x 1 = 4 marks )
24. (a) - Reduce friction.  
- Increase machinery efficiency  
- Reduce wear and tears  
- Acts as a seal between such parts / surface  
- Guards against rusting  
- Cleaning agents / washes off dust, soot and metal chipping.  
( Any 4 x 1 = 4 marks )

- (b) - Land not accessible to a tractor  
 - Irregularly shaped pieces of land  
 - Cost of tractor hiring being too high  
 - Where tractor hire services are not available  
 - On very steep slopes ( Any 4 x 1 = 4 marks )
- (c) - Carbon deposits on the spark plug electrodes should be removed  
 - Replace worn out spark plugs  
 - Clean the contact breaker points  
 - Replace the condenser regularly  
 - Adjust the breaker points to lie between 0.30 mm and 0.5 mm  
 - Ignition system should be kept dry  
 - Ignition wires with poor insulation should be replaced. ( Any 6 x 1 = 6 marks )
- (d) - Low work output – Animal get tired hence reducing the amount of work they can perform at a given time.  
 - Expensive to manage – Animals require land set aside for extra pastures or fodder crop to be fed to them.  
 - They work slowly. Animal movement is slow as compared to tractor hence take a long time to finish work which would have otherwise taken shorter time with tractor.  
 - Unreliable: Animal often fall sick hence cannot be relied upon. ( 3 x 2 = 6 marks )

25. (a) (i) *Theirellia parva* / protozoa ( 1 x 1 = 1 mark )

- (ii) - Swollen lymph nodes especially around the base of the ears shoulder  
 - Animal develops a high temperature  
 - Animal salivates profusely  
 - Animal lachrimates / sheds tears  
 - Animal develops difficulties in breathing  
 - Animal will cough  
 - The animal will have sight impairment ( 5 x 1 = 5 marks )

- (iii) - Spray the animal with acaricide to kill the vector organism  
 - Fence the farm to keep off stray animals  
 - Treat sick animals with appropriate drugs ( 3 x 1 = 3 marks )

- (b) - Egg laid in the ground  
 - Eggs hatched into the larvae  
 - Larval climbs on the first host  
 - It feeds till its engorged  
 - Engorged larvae falls in the ground  
 - It moults into a nymph  
 - Nymph climbs the second host  
 - It feeds till its engorged  
 - Engorged nymph falls into the ground  
 - Moults into adult  
 - Adults climb on the third host  
 - It sucks blood engorged and mate  
 - Engorged adult fall down to the ground to lay eggs.

( 11 marks )