

**MARKING SCHEME**  
**CASPA 2021**  
**AGRICULTURE PAPER 1**

1. a)
- small farms
  - Huge capital ½ each (1mk)
  - Skilled labour
  - Produce for sale
  - Mechanization done
- b)
- High yields per unit area
  - Proper use of soil resources ½ each (1mk)
  - Guards against total loss
- 2.
- Improves the soil nutrient content
  - Improve soil structure ½ each (1mk)
  - Improves soil temperature
- 3.
- Low Temperature
- Slow growth rate
  - High incidence of diseases of CBD ½ each (1mk)
  - Improves quantity
- High Temperature
- Causes wilting ½ each (1mk)
  - Increases growth rate
  - Increase in pests attack
4. a)
- Test or presence of soil micro-organisms ( ½ mk )
- b)
- A - Lime water turns milky
- B- Lime water remains clear ½ each (1mk)
- c)
- Presence of organisms in A produce CO<sub>2</sub> that turns lime water milky. (1mk)
- 5.
- -Crop to be planted
  - Implement available 3 × ½ ( 1 ½ mks )
  - Type of soil
  - Nature of the land
6. a)
- Situation in which least possible cultivation operations are carried out in crop production

- (1mk)
- b) - Planting in another crop field  
 - -Clearing f land then plant  $4 \times \frac{1}{2}$  (2mks)  
 - Use of herbicides to kill weeds  
 - Planting on stubble land
- 7 a)  
 - Surface irrigation- Flood irrigation  
 - Sub-surface irrigation e.g underground pipes  $2 \times \frac{1}{2}$  (1mk)  
 - Overhead irrigation – eg sprinkler
- b)  
 - Irrigation  
 - Watering canals  
 - Domestic use  $4 \times \frac{1}{2}$  (2mks)  
 - Diluting chemicals  
 - Construction works  
 - Processing produce
8.  
 - Show next date of treatment/vaccination  $3 \times \frac{1}{2}$  ( 1 ½ mks )  
 - Occurrence of diseases  
 - Response to diseases
- 9 a)  
 Diagonal/Transverse  $\frac{1}{2}$  mk
- b)  
 - Avoid contaminants ions/use sterilized containers  
 - Avoid unusual sites e.g. Anthills  $3 \times \frac{1}{2}$  ( 1 ½ mk)  
 - Avoid mixing p soil and sub-soil  
 - Collect at the correct depth
- c)  
 - Determine nutrient content  
 - Determine soil PH/ Fertilizer to be used  $4 \times \frac{1}{2}$  (2mks)  
 - Determine mineral deficiency  
 - Expected yields
10.  
 - Break dormancy  
 - Control pests and Diseases  $2 \times \frac{1}{2}$  (1mk)  
 - Faster germination/uniform stand
11.  
 - Type of soil  
 - Moisture in the soil  $2 \times \frac{1}{2}$  ( 1mk)  
 - Species of Beans  
 - Machinery used

- Purpose of Beans
- Stored of beans

12.

- Security for loans
- Security of land ownership 4 × ½ (2mks)
- Minimize disputes
- Encourage farmer to invest

13.

- Wires
- Stones 3 × ½ ( 1 ½ mks )
- Concrete (sand/cement/gravel)
- Wood/metal rods/pegs.

14.

- Damage crop roots e.g. Nematodes
- Uproot planted seeds
- Attack fruits e.g. fruit flies
- Transmit diseases 4 × ½ (2mks)
- Causes retarded growth
- Destroy leaves

15.

- Training
- Giving
- Supervision
- Good Human Relations 4 × ½ (2mks)
- Assigning tasks
- Proper motivation

## **SECION B**

16.

**Cropping** - removal of fish of marketable size from the pond

**Harvesting** – removal of all fish from the pond

Mark as a whole 2 × 1= 2 marks

- Forage spp
- Stage o harvesting 3 × 1 ( 3mks)
- Mode feeding
- Type of forage (mixed/pure stand)

### **1. Characteristics of extensive farming systems**

- Large tracts of land
- Low capital investment

- Low labour per unit area
- Low yields per unit area

16.

17.

- Stage of growth
- Plant thropology 2 × 1
- Mode of action ( 2mks)
- Environmental contributions

18.

- Forage Spp
- Stage of harvesting
- Length of drying 2 × 1
- Weather conditions ( 2mks)
- Storage conditions

## 2. 21. Physical factors in soil formation

- Wind
- Water
- Moving ice
- Temperature

## 22. Factors that determine depth of planting

- Soil type
- Soil moisture content
- Size of the seed
- Type of germination

## 23. Harmful effects of ticks on livestock

- They suck blood leading to anaemia
- They cause wounds that lead to secondary infection
- They transmit livestock diseases
- They cause irritation to the animal
- They lower the value of hides and skins

## SECTION C

24. a)

- Timely planting- Early planting makes crop escape pest attack e stalk borer.
- Timely harvesting- storage pests may attack crop in the field e.g. weevils.
- Proper Tillage- field cultivation exposes pests which are soil borne e.g. white grubs, scorched

by soln.

- Close season- planting of crops in a certain season to avoid pest attack cotton Bollworm
- Trap cropping- plant a crop and destroy once attacked by pests
- Crop rotation- Alternate crops which are attacked by different types of pests eg Groundnuts and potatoes attacked by Nematodes with maize and beans
- Plant resistant varieties- breeder develops breeds which are resistant to some diseases. e.g. goose necked sorghum against Bird pests.
- Field Hygiene- keeps the field free from pests. Removal of infected plants from the field.
- Destruction of alternate hosts- some weeds act as alternate hosts for pests.
- Crop nutrition - makes crops strong and resistant to pests 1 × 10 (10mks)

b)

- Use of soil moisture- crops will use the available moisture in the soil.
- Soil Nutrients- plants will benefit from the Nitrogen Flush
- Market prices- Early planting will make the produce benefit from the early market prices.
- Pests and diseases- Early planting makes the crops escape the pests and diseases which are soil borne
- Crops vigour- Early planting enable the crops to growth with vigor(strong and uniform)
- Timely harvesting- Early planting makes harvesting take place early  
State 1 mk    Explain    1 mk    ( 10mks )

25. a)

- Measurement of land to establish sizes by recommended surveyors
- Description of land- shows its location
- Recording and mapping of land in the land registry. 1 × 5 ( 5mks )
- Resolving any objections if raised
- Submission of the records for registration

b. Issuing of the land title Deed **Reasons for carrying out minimum tillage**

- To maintain soil structure
- To conserve soil moisture
- Prevent humus exposure
- Prevent root disturbance
- Control soil erosion
- Reduce cost of cultivation

6 × 1 = 6 marks

c. **Ways soil lose fertility**

- Leaching – nutrients carried to lower zones by infiltrating water leads to loss of fertility.
- Soil erosion – carrying away of top fertile soils by erosion agents loss of soil fertility.
- Mono cropping – growing one crop continuously on the same piece of land

results in exhaustion of nutrients thus loss of soil fertility.

- Continuous cropping – harvested crops remove large amounts of nutrients from the soil which makes soil deficient of this nutrients.
- Burning vegetation cover- burning destroys organic matter and soil structure.
- Change in soil pH – due to use of fertilisers leads to change in soil pH thus affect activity of microorganisms.

(First 4; mention 1 mark, well explained 1 mark)

4 × 2 = 8 marks.

## 26. A. Field management practices in tomatoes

- Gapping
- Topdressing
- Weeding
- Staking

### b. Factors that determine water requirements in an animal's body

- Ambient temperature
- Type of feed eaten by animal
- Level of production
- Body size
- Species of the animal
- Amount of work

5 × 1 = 5 marks

### c. Transplanting tree seedlings

- Dig holes for transplanting
- Transplant at onset of rains
- Water the seedlings a day before transplanting
- Place seedlings at the centre of the hole
- Cut and remove polythene sleeve using a sharp knife
- Add soil around the tree until the hole is filled completely
- Firm the soil gently around the tree seedling
- Plant at the same depth as it was in the nursery.
- Change in soil pH – due to use of fertilisers leads to change in soil pH thus affect activity of microorganisms.

(First 4; mention 1 mark, well explained 1 mark)

4 × 2 = 8 marks.

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- Pest control
- Disease control

7×1 = 7 marks