

AGRICULTURE FORM 2 TERM THREE 2023

MARKING SCHEME

- 1) Apiculture- rearing of bees in bee hive
Aquaculture – rearing of fish in fish ponds (mark as a whole 1mk)

- 2) Shifting cultivation
Nomadic pastoralism
Organic farming
Agroforestry
Mixed farming($4 \times \frac{1}{2} = 2$ mks)

- 3) Paying workers in the farm
Buying farm inputs e.g. seeds
Starting up small businesses
Improving living standards
Some income may be taxed by government to fund developmental projects
($4 \times \frac{1}{2} = 2$ mks)

- 4) Level of education and technology
Health (HIV and AIDS and health in general)
Economy
Government policy
Transport and communication
Cultural practices and religious believes
Market forces (4* $\frac{1}{2}$ = 2mks)

- 5) To kill disease causing microorganismse.g. cholera
To remove chemical impurities e.g. excess fluoride
To remove smells and bad taste
To remove sediments of solids e.g. sand, sticks (4* $\frac{1}{2}$ = 2mks)

- 6) Sickle – for cutting back pyrethrum stalks, harvesting rice and other grasses
Milk churn - holding milk in transit and storage
Elastrator – expanding the rubber ring during castration
Drenching gun – administering liquid drugs through the mouth of an animal
(4*¹/₂ = 2mks)
- 7) Leave the tool in a safe place after use
Use the correct tool for the correct job
Proper handling of tool to avoid damage of the tool and injury to the user
Proper maintenance of tool to keep it in good working conditions
Store tools properly in cabinets or tool racks to avoid wear and tear or injuries during working
Maintain safe working environment by installing fire extinguishers and first aid kits to reduce accidentse.g. in welding (4*¹/₂ = 2mks)
- 8) Destroys soil structure
Kills important soil micro organisms
Causes evaporation of the available moisture
Leaves the land bare and exposed to agents of soil erosion
Fire may spread to unintended crops
Causes accumulation of potash which changes soil PH
Causes loss of nutrients through volatilisation (4*¹/₂ = 2mks)
- 9) Use of herbicides
Mulching
Cover cropping
Uprooting or slashing weeds
Restricting cultivation where seeds are to be planted
Timing cultivation e.g. late weeding in cotton produces clan seedbed for sowing finger millet (4*¹/₂ = 2mks)
- 10) Springs

Wells

Boreholes (2*¹/₂ = 1mk)

11) Good depth

Well drained

Good water holding capacity

Has adequate nutrient supply

Has correct PH

Free from excessive infestation of soil borne pest and diseases (4*¹/₂ = 2mks)

12) British alpine

Saanen

Toggenburg

Jamnapari

Anglo – Nubian (4*¹/₂ = 2mks)

13) Muster roll

Labour utilisation analysis (2*¹/₂ = 1mk)

14) Leaf chlorosis

Stunted growth

Leaves turn brown and fall off prematurely

Production of anthocyanin (purple colour) e.g. in tomatoes (4*¹/₂ = 2mks)

15) Suckers

Crown

Slips (2*¹/₂ = 1mk)

16) Type of soil

Near a water source

Topography

Previous cropping

Security

Well sheltered place ($4 \times \frac{1}{2} = 2$ mks)

17) Should be well ventilated

Rat or vermin proof

Easy to load and off load

Pest – free

Should have leak proof roof

Well secured to minimise thefts

Should provide cool conditions to prevent cracking of grains ($4 \times \frac{1}{2} = 2$ mks)



SECTION B

18a) calcium

Nitrogen

Phosphorus

Carbon

Sulphur

Magnesium ($4 \times \frac{1}{2} = 2\text{mks}$)

b) Copper

Molybdenum

Zinc

Iron ($2 \times \frac{1}{2} = 1\text{mk}$)

c) Nitrogen

Phosphorus ($2 \times \frac{1}{2} = 1\text{mk}$)

d) Calcium

Sulphur

Magnesium ($2 \times \frac{1}{2} = 1\text{mkS}$)

19a) Soil profile (1mk)

b)A Topsoil

B Sub soil

C Substratum /weathered rocks

D Parent rock material ($4 \times \frac{1}{2} = 2\text{mks}$)

c) Helps farmer to choose the appropriate crop to grow

Helps to determine depth of ploughing

Helps farmer to determine the kind of foundations for farm structures ($2 \times 1\text{mk} = 2\text{mks}$)

20a) Aerial layering/ marcotting (1mk)

b) Select healthy woody branch

Remove the bark and cambial layer from a section of the branch/ring back the branch

Heap moist rooting medium around the section

Wrap the rooting medium with polythene sheet (2mks)

c) Used to obtain large planting materials

Used to propagate plants whose branches cannot bend to the ground (2mks)

21a) Tsetse fly (1mk)

b) Transmits Trypanosomiasis/ nagana (1mk)

c) Bush clearing to destroy breeding site

Spraying insecticide to kill them

Trapping and killing

Sterilizing male flies to impair breeding

Use impregnate nets to kill them

Creating a buffer zone between game reserves and livestock areas to isolate them

(1*3=3mks)

SECTION C

22a) **Importance of vegetables to a farmer**

Source of income when sold by farmer

Source of food for consumption by the farmer

Provides animals with vitamins and minerals e.g. calcium for proper growth and animals performance

Can be used to prepare organic manure

Vegetables not used for consumption can be fed to livestock (1*5=5mks)

b) i) **Onion varieties**

Red creole

White creole

Tropicana hybrid (2*¹/₂mk =1mk)

ii) **Ecological requirements**

Altitude – 2100 meters above sea level

Soil should be deep, well drained fertile soil

PH slightly acidic (6.0 – 7.0)

Rainfall – 1000 mm / year. Rainfall should be well distributed throughout the growing period.

Dry spell is required during ripening of the bulbs(**any three points well explained 3mks**)

iii) **Land preparation**

Prepare land during the dry spell

Clear vegetation and remove all the weeds

Prepare seedbed to a fine tilth

Apply farmyard manure 40 -50 tonnes / ha (3mks)

iv) **Field management**

- i) Thinning – done to achieve distance of 8cm between the plants when onion is directly planted in the seedbed
- ii) Weeding avoid compacting soil around the bulbs. Avoid damaging the shallow roots when weeding
- iii) Watering done during the dry spell to supply moisture to the crops
- iv) Topdressing apply Calcium Ammonium Nitrate fertilizer (CAN) 250 kg/ha three weeks after planting to hasten growth
- v) Pest control – use suitable appropriate recommended insecticide to control onion-thrips
- vi) Disease control use suitable appropriate recommended fungicide to control purple blotch

(Any four points well explain 4mks)

v) **Harvesting and marketing**

Harvest the bulbs five months after planting

When the leaves start drying their tops should be broken or bent at the neck.

Dig up the bulbs and dry them under shade

Turn the bulbs daily for even drying

Store the bulbs in slatted boxes

Grade the bulbs according to size and market them in net bags (4mks)

23a) i) **Disease** deviation from the normal functioning of organs or system which interrupts proper functioning of animal's body (1mk)

ii) **Health** state in which all body organs and systems are considered normal and functioning normally (1mk)

b) Age of the animal

Sex of the animal

Species of the animal

Breed of the animal

Colour of the animal

Physical injuries e.g. wounds

Weather condition e.g. cold predisposes calves to pneumonia

Congestion ($4 \times \frac{1}{2} = 2$ mks)

c) It helps to reduce medication cost

Healthy animals grow faster hence reach maturity faster

Healthy animals have high productivity

Healthy animals will not spread disease to other animals or to human beings

Healthy animals produce quality products hence high marketability

Healthy animals have long productive life

Healthy animals give birth to healthy offspring (6mks)

d) Isolation of sick animals

Imposition of quarantine

Slaughtering of affected animals

Proper feeding and nutrition

Proper breeding and selection

Proper housing and hygiene

Use of antiseptics and disinfectants to enhance hygiene in livestock houses and surroundings

Prophylactic measures and treatment which include

- i) Use of prophylactic drugs
- ii) Regular vaccination
- iii) Control of vectors
- iv) Treatment of sick animals (5mk)

e) They suck blood causing anaemia

They cause irritation through their bites

They obstruct internal organs

They transmit diseases

They cause injuries to the tissues and organs through their bites

They deprive the host animal of food (5mks)

24a) Ensures maximum utilisation of nutrients when heavy nutrient feeders are alternated with light nutrient feeders

Improves soil structure when grass ley is included in the programme

Improves soil structure when legume crop is included in the programme

Controls soil erosion by alternating crops planted in rows with cover crops

Controls weeds e.g. *Striga spp* which is specific to grass family crops

Controls soil borne pests and disease build up (Award 1mk for stating and 1mk for explaining 5*2=10mks)

b) Mulching

Cover cropping

Crop rotation

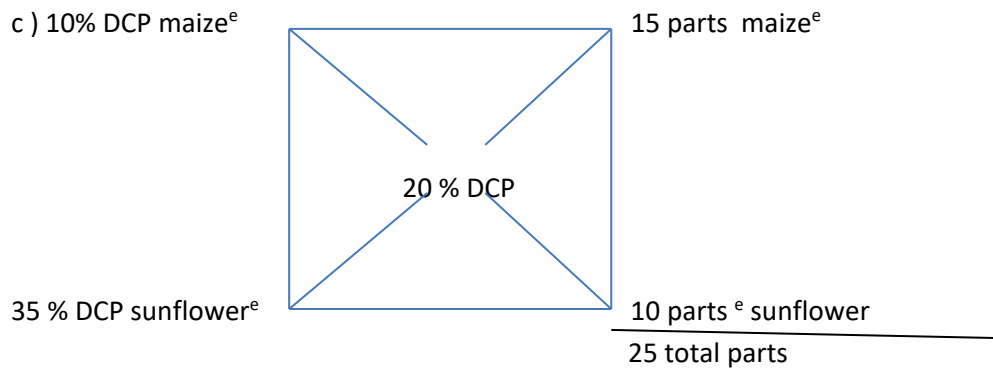
Double digging

Biological pest control

Observing close season (1*5mks)



c) 10% DCP maize^e



(I) Maize $\rightarrow \frac{15}{25} \times 200 = 120 \text{ kg. (1mk)}$

(II) Sunflower parts $\rightarrow \frac{10}{25} \times 200 = 80 \text{ kg (1mk)}$

