AGRICULTURE MARKING SCHEME PAPER 1

TERM 2 2025

1. Keeping livestock whereby farmers move from one place with their livestock in search of pastures and water (1x1=1mk)
2. Factors considered when choosing farming methods
   - Land size
   - Social cultural factors
   - Taste and preference of the farmers
   - Capital available
   - Climatic condition
   - Technical skills
   - Market availability (4x½=2mks)
3. Farming practices that destroy soil structure
   - Over cultivation\pulverization of soil
   - Using heavy machinery on wet or too dry
   - Deforestation
   - Overstocking leading to overgrazing
   - Burning of organic matter (4x½=2mks)
4. Name four methods of treating seeds before planting
   - Seed cleaning
   - Seed inoculation
   - Seed dressing
   - Breaking seed dormancy
   - Chilting (4x½=2mks)

5. - Topography of the land
   - Amount of water supply
   - Soil type
   - Type of crop to be grown
   - Capital available
6. Role of nitrogen in plant nutrition (2mks)
   - Influence reproduction
   - Protein formulation
   - Component of chlorophyll

- Increase grain size
- Regulate availability of phosphorous and potassium
- Promote vegetative growth (4x½=2mks)

7. State four methods of fertilizer application
   - Broadcasting
   - Side dressing/banding /ring application
   - Drilling
   - Infection into the soil (4x½=2mks)
8. Limitations of using seeds for propagation
   - Not easy to control genetic variation
   - Can spread diseases easily through imported seeds
   - Delayed matural due to prolonged dormancy
   - Not easy to determine viable seeds
   - Can be easily destroyed by pest
   - Cross pollination may bring undesirable characteristics (4x½=2mks)
9. Advantages of intercropping
   - Crop complement each other on nutrient use
   - May offer protection from weed , pest and diseases
   - Efficient use of land
   - Efficient use of labour
   - Insurance against total loss (4x½=2mks)
10. State two importance of storage of crop produce
    - Same seeds for planting
    - Provide food between harvest seasons
    - Provide farm animals with food
    - Avoid heavy losses of produce in the field
    - Fetch high market prices (2x½=2mks)
11. Preparation done on vegetables before marketing
    - Grading
    - Washing
    - Removal of diseased/ dead leaves
    - Packing (4x½=2mks)
12. (i) Scarcity – state of being limited in supply

    (ii) Opportunity loot – the values of the bert alternative forgone (1x2=2mks)
13. General symptoms of viral diseases in planting

- Clowning
- Stunted growth
- Mosaic mottling
- Necrosis
- Leaf curls (4x½=2mks)

14. Classification of pastures on basis of attitude
    - High altitude
    - Medium altitude
    - Low altitude (2x½=2mks)

15. Four methods of utilizing maize as fodder crops
    - Through direct grazing
    - By cutting and feeding livestock as green fodder
    - Making hay
    - By making silage (2x½=2mks)

16. Methods of land reform
    - Land consolidation
    - Land subdivision
    - Land adjustments
    - Land registration
    - Settlement and resettlement 3x½=1½

17. Factors affecting the effectiveness of a pesticide
    - Concentration
    - Weather condition
    - Persistence of pesticide
    - Formulation of pesticide
    - Mode of action pesticide 3x½=1½

Section B

18. (a) Rill erosion 1x1=1mk

    (b)
    - Where there is little vegetation
    - Where land has first been plunged
    - Where there is concetration of flowing water 1x2 = 2mks

    (c) – practice cover cropping

    - Cultivation along contours

- Mulching
- Intercropping 1x2=2mks

19. (a) maize smut 1mk

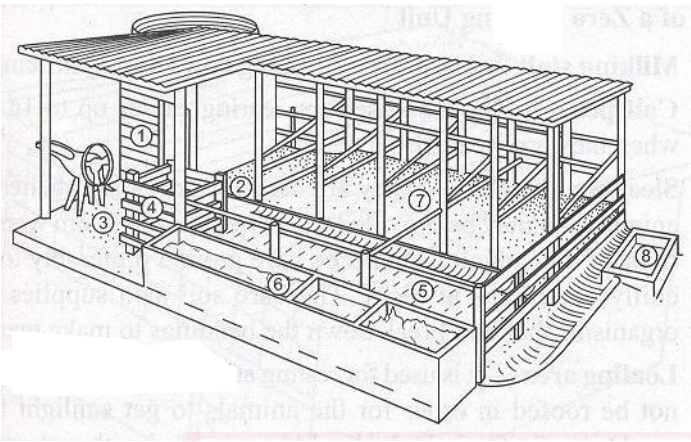
(b) fungus ustilago fungus 1mk

(c) Crop rotation

-field hygein seeds

- use of cartified seeds 3x1 = 3mks

20. The diagram below shows a certain farm structure.



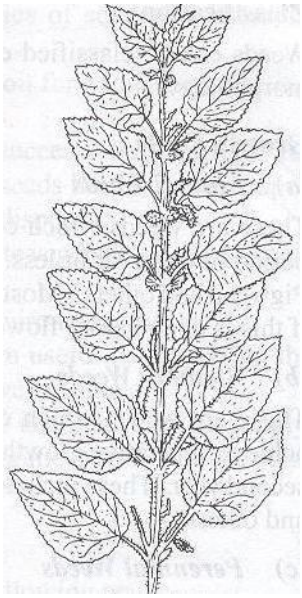
(i) Name the grazing system achieved by use of such a structure. **(½ mark)**

Zero grazing / stall feeding;

(ii) Outline **five** advantages of the grazing system named above. **(2 ½ marks)**

- *There is quick accumulation of manure;*
- *Animals make good use of feeds without wastage;*
- *Animals produce high fields due to less wastage of energy;*
- *It is easy to control diseases and parasites;*
- *It requires little land;*
- *It allows high stocking rates;*

21. The diagram below shows a common weed plant.



(i) Identify the weed. *Stinging nettle/urtica massaica;* **(½ mark)**

(ii) Why is it difficult to eradicate the above weed? **(1 mark)**

It irritates the workers thus reducing the efficiency in which they are controlled;

(iii) Name **two** biological weed control methods. **(1 mark)**

- *Use of livestock of goats to graze and control the growth of weeds in plantation crops e.g. coconuts and cashew nuts;*
- *Use of certain weed eating fish to control aquatic weeds;*
- *Use of moths to control cactus;*

SECTION C

21. (a) five methods of farming
    - Mixed farming
    - Nomadic farming
    - Shifting cultivation
    - Organic farming
    - Agro forestry (2x5 = 10mks)

    Stating 1mk

    Explaining 1mk

(b) – It determines the type of crops to be grown

- It influences the amount of moisture held in the soil
- Influences availability of nutrients
- Influences water holding capacity
- Influence soil mineral content

- Influence water infiltration

(c) Chemical processes of weathering

- Hydration where minerals absorb water and expand causing stress and fracturing of rocks
- Hydrolysis where hydrogen ions in rock lead to complete decomposition of the minerals
- Solution where soluble mineral present in the rocks are dissolved in water
- Carbonation where weak carbonic acid changes calcium carbonate to calcium bicarbonate that is readily removed in solution by ground water
- Oxidation and reduction (rusting) which occurs when mineral compound inn the rock mass take up oxygen to form soluble oxides

22. (a) Describe 'Importance of irrigation'. **(5 marks)**

- *It adds water to the soil so as to supply the moisture essential for plant growth;*
- *Ensure that crop production is realized even during periods of moisture supply;*
- *Modify the soil environment by cooling the soil and the atmosphere thereby making the soil favourable for crop growth;*
- *Modify soil chemical environment by removing excess or dilute salts from the soil;*
- *Reclaim dry land;*
- *Modify the soil's physical conditions by making soil softer, hence facilitating tillage operations;*

(b) Show that you understand breeding and labour records. In each case, give the importance. **(5 marks)**

- ***Breeding records*** *– shows breeding activities, and programmes of different farm animals; They help to detect poor breeders and to cull them;.*

- ***Labour records*** *– Show utilization in the farm; its availability; and whether skilled or not; they help in the calculation of the total cost of labour in the farm;*

(c) Describe the field production of carrots under the following sub-headings.

(i) Seed bed preparation **(2 marks)**

- *Plough the land before onset of rains to a depth of 20cm;*
- *Harrow the land to a fine tilth before planting;*
- *Manure should not be applied as it induces forking;*

(ii) Planting **(4 marks)**

- *Carrots are sown directly into the seedbed;*
- *Drill seeds continuously into rows made 20 – 30 cm apart;*
- *Seeds are then covered lightly and soil pressed down;*
- *Apply double superphosphate fertilize in drills at the rate of 90hg/ha;*

(iii) Field management practices **(4 marks)**

- *Thinning; – this is done, to attain a distance of 3 – 4 cm between plants within the row;*
- *Weeding; – The seedbed should be weed free and earthing up around carrot plants should be done to encourage root expansion;*
- *Top dressing;- 60kg/ha should be applied after weeding;*
- *Control of pests; – Use appropriate pesticides to control pests e.g. green aphids;*

23. (a) Outline **seven** effects of strong wind in agriculture. **(6 marks)**

- *Increasing the rate of evaporation of moisture from the soil ;Causing lodging in cereals and damage crops;*
- *Blowing away and bringing rain-bearing clouds;*
- *Acting as agent of seed dispersal;*
- *Acting as agent of soil erosion;*
- *Increasing evapo-transpiration rate;*
- *Increasing the spread of diseases and pests;*
- *Destroying farm structures;*
- *Areas with high humidity tend to be hotter but when wind takes away water, a cooling effect occurs;*

(b) Briefly describe the soil sampling procedure. **(6 marks)**

- *Vegetation from the sampling spot is cleared and a vertical cut is made to a depth of 15 – 25cm for crop land and 5cm for pasture land;*
- *A slice is taken from the vertical cut, using a spade or preferably is soil auger;*
- *The soil is put in a clean polythene bag or any suitable container;*
- *The above steps are repeated in different parts of the field preferably 15 – 20 spots depending on the sampling method used;*
- *Soil from all the spots are thoroughly mixed, dried and crushed;*
- *A sub-sample from the mixture is taken and sent to the laboratory for testing;*

(c) Discuss **four** methods used to prepare planting materials before they are planted. **(8 marks)**

- *Breaking of seed dormancy; – Dormancy is the period whereby a seed cannot germinate. Dormancy can be broken through mechanical method/heat treatment/ chemical treatment/soaking in water;*
- *Seed dressing;- This involves the coating of seeds with a fungicide or an insecticide or a combination of the two chemicals to protect the seedlings from soil borne diseases and pests;*
- *Seed Inoculation; – This is the coating of legumes e.g. beans, clovers etc with inoculants in areas deficient in nitrogen to encourage nodulation hence nitrogen fixation;*
- *Chitting ;– This is the sprouting of potato setts to break dormancy before planting; (this is done by arranging setts in layers of 2 – 3 tubers deep in a partially darkened room where diffused light is allowed to pass through.*