

Marking scheme agric. Paper, I

1. Two disadvantages of small scale farming (1mk)

- (i) The yields of produce are low
- (ii) It offers less employment opportunities compared to large scale farming
- (iii) It does not enjoy economies of large scale

2. Two ways by which predators affect agricultural production

- (i) Some predators help to control pests by feeding on them
- (ii) Predators that kill livestock impact negatively on them

3. a. Alum – to coagulate solid particles

b. Soda ash –softening of water

4. Ways in which crop rotation control weeds (1mk)

- (i) Crops associated with specific weeds are alternated with crops of different families to remove the appropriate host and break the life cycle of weeds
- (ii) Alternating with cover crops smothers the weeds

5. Four characteristics of a good vegetable seedling 2mks)

- (i) Free from disease/pest/healthy
- (ii) Vigorously growing
- (iii) Free from physical deformities
- (iv) High yielding
- (v) Correct stage of growth/height/10-15cm tall/4-6 true leaves

6. two forms of horticulture practised in Kenya (1mk)

- (i) Floriculture
- (ii) Pomoculture /pomology
- (iii) Olericulture

7. Two mechanical methods of separating soil particles according to size during soil analysis(1mks)

- (i) Using sieve/sieve analysis
- (ii) Sedimentation method

8. four reasons why nursery is important in crop production(2mks)

- (i) Many seedlings can be produced in a small space
- (ii) Facilitates timely routine management practices
- (iii) Best conditions for growth of seedlings
- (iv) Small seeds and delicate seedlings grow into healthy and vigorous seedlings
- (v) Reduced growth period in the field
- (vi) Excess seedlings can be sold for income

(vii) Facilitates selection of healthy and vigorously growing seedling for transplanting

9. Plant part used for vegetative propagation (2mks)

- (a) Cassava –stem cuttings/stems
- (b) Sisal- bulbils/suckers
- (c) Pyrethrum –splints
- (d) Sweet potatoes – vines /stem cuttings

10. four reasons for applying phosphatic fertilizer during planting (2mks)

- (i) Less soluble
- (ii) Promote root development
- (iii) Lacks/has slight scorching effect
- (iv) Long residual effect
- (v) Not easily leached

11. two reasons of soil testing (1 mk)

- (i) Determine soil type/type of fertilizer/type of plant to grow
- (ii) Determine nutrient content/amount of fertilizer to apply

12. four management practices undertaken to improve the natural pastures (2mks)

- (i) Weed control
- (ii) Topping
- (iii) Fertilizer application/irrigation/pest control

13. four qualities of certified seeds (2 mks)

- (i) High germination percentage
- (ii) Suitable to the ecological conditions
- (iii) Free from physical damage
- (iv) True to type/free from off types
- (v) Clean

14. four classes of weeds (2mks)

- (i) Broad leaved weeds
- (ii) Narrow weeds
- (iii) Perennial weeds
- (iv) Annual weeds
- (v) Biennial weeds
- (vi) Monocotyledonous weeds
- (vii) Dicotyledonous causes of land weeds

15. three causes of land fragmentation in Kenya (1.5 mks)

- i) Inheritance
- ii) Purchase of land
- iii) Compensation by the government

16. three organic farming practices (1.5 mks)

- i) Mulching
- ii) Use of organic manure
- iii) Cover cropping
- iv) Crop rotation
- v) Uprooting/slashing of weeds
- vi) Restricting cultivation to crop roots

17. Meaning of production function (1 mk)

It is the physical relationship between resource input and corresponding output/product

18. meaning of integrated pest management . (1 mk)

This is a combination of physical, chemical, biological and cultural pest control methods

19. four examples of fixed costs in maize production (2mks)

- i). Salaries of permanent workers
- ii). Insurance
- iii). Rent
- iv). Standing charges of telephone
- v). Depreciation cost of farm machinery
- vi). Cost of buying machinery

20. four factors that determine the choice of water pipes in the farm(2mks)

- i). Strength of the pipes
- ii). Amount of water to be conveyed
- iii). Cost of the pipes
- iv). Diameter/size of the pipes
- v). Durability
- vi). Colour of the pipes

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a. tea cutting/cutting (1mk)

b. two reasons why the middle part of plant was used (1 mk)

- i). Top part tends to rot when planted.

ii). Bottom takes long to root

c. two other precautions that are observed when preparing the illustrated planting material

(3mks)

- i). Place it in water until it is planted to avoid dehydration
- ii). Each cutting should have a leaf and a bud
- iii). Use sharp knife or blade to prevent breaking of the cutting
- iv). Make slanting cuts to prevent accumulation of moisture

22.

i. chitting

ii. describe the procedure for preparation of seed potatoes for planting (4 mks)

- Arrange the setts /tubers in a store or chitting box with rose end facing upwards
- Tubers are arranged 2-3 layers deep
- Allow diffused light through the store
- Dust/spray the setts with insecticide/fungicides to control pests or fungal infection
- Sprinkle some water on tubers if conditions are dry

23. a.i

A trench/channel (0.5 mk)

B ridge/embankment (0.5 mk)

ii.

Procedure of constructing a cut off drain (2 mks)

- Measure and mark the layout of the drain
- Dig and remove soil from the channel and heap it on the lower side of the drain

24.

a. to demonstrate the presence of living organisms in the soil

b. C-lime water turns milky/white ppt formed

D- no observable change/lime water remains clear

25. a. Seven factors that should be considered when selecting seeds for planting (7mks)

- Adaptability should be adaptable to local conditions
- Physical deformities –should be free from physical damages and pest/diseases
- Viability/germination percentage – should have high germination percentage/viability
- Should be from high yielding /healthy planting material
- Purity-should be clean/free from impurities
- Maturity – should be of correct maturity stage

- Age/storage period seeds stored for a long time have low germination percentage hence should not be selected.
- Size of the seeds – should be of the correct size.

b. four benefits of adequate supply of water in vegetable crop production. (4mks)

- Controls pest in crop production
- Maximises the use of available nutrients
- Increases yields and ensure a steady supply of food throughout the year
- Ensures a steady and reliable source of income and employment

c. four factors that determine the nutrient content hay. (4mks)

- Stage of growth at harvesting time i.e., should be cut when 50 percent has flowered.
- Species of the forage crop used
- Duration of storage
- Length of drying period
- Method of storage

c. five r reasons of keeping farm records (5mks)

- Planning and decision making
- Income tax assessment
- Provides information useful during credit acquisition
- Indicates the net worth of the farm
- Compare the performance of enterprises between seasons or between one farm and the other
- Solve disputes among heirs
- Tell the history of the farm
- Help in insurance claims
- Assist to detect losses in the farm
- Calculations of profits and losses
- Calculations of labour information e.g., Terminal benefits/NHIF/NSSF

26. a. Five nursery management practices (5 mks)

- Watering provides moisture amounts needed by the seedlings
- Weed control
- Shading
- Mulching
- pest and disease control
- pricking out
- hardening
- security

b. explain five cultural methods of soil and water conservation (7 mks)

- grass/filter strips

- contour cropping
- mulching
- rotational grazing
- intercropping
- grassed/vegetated waterways
- afforestation/reafforestation
- agroforestry
- use of organic manure
- correct spacing

c. the role of magnesium in crop production (4mks)