Marking scheme agric. Paper, I

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

1. The yields of produce are low
2. It offers less employment opportunities compared to large scale farming
3. It does not enjoy economies of large scale

2.Two ways by which predators affect agricultural production

1. Some predators help to control predators by feeding on them
2. 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)

1. Crops associated with specific weeds are alternated with crops of different families to remove the appropriate host and break the life cycle of weeds
2. Alternating with cover crops smoothers the weeds

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

1. Free from disease/pest/healthy
2. Vigorously growing
3. Free from physical deformities
4. High yielding
5. Correct stage of growth/height/10-15cm tall/4-6 true leaves

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

1. Floriculture
2. Pomoculture /pomology
3. Olericulture

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

1. Using sieve/sieve analysis
2. Sedimentation method

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

1. Many seedlings can be produced in a small space
2. Facilitates timely routine management practices
3. Best conditions for growth of seedlings
4. Small seeds and delicate seedlings grow into healthy and vigorous seedlings
5. Reduced growth period in the field
6. Excess seedlings can be sold for income
7. Facilitates selection of healthy and vigorously growing seedling for transplanting

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

1. Cassava –stem cuttings/stems
2. Sisal- bulbils/suckers
3. Pyrethrum –splits
4. Sweet potatoes – vines /stem cuttings

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

1. Less soluble
2. Promote root development
3. Lacks/has slight scorching effect
4. Long residual effect
5. Not easily leached

11.two reasons of soil testing ( 1 mk)

1. Determine soil type/type of fertilizer/type of plant to grow
2. Determine nutrient content/amount of fertilizer to apply

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

1. Weed control
2. Topping
3. Fertilizer application/irrigation/pest control

13.four qualities of certified seeds (2 mks)

1. High germination percentage
2. Suitable to the ecological conditions
3. Free from physical damage
4. True to type/free from off types
5. Clean

14.four classes of weeds (2mks)

1. Broad leaved weeds
2. Narrow weeds
3. Perennial weeds
4. Annual weeds
5. Biennial weeds
6. Monocotyledonous weeds
7. Dicotyledonous causes of land weeds

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

1. Inheritance
2. Purchase of land
3. Compensation by the government

16. three organic farming practices (1.5 mks)

1. Mulching
2. Use of organic manure
3. Cover cropping
4. Crop rotation
5. Uprooting/slashing of weeds
6. 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)

1. Salaries of permanent workers
2. Insurance
3. Rent
4. Standing charges of telephone
5. Depreciation cost of farm machinery
6. Cost of buying machinery

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

1. Strength of the pipes
2. Amount of water to be conveyed
3. Cost of the pipes
4. Diameter/size of the pipes
5. Durability
6. 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)

1. Top part tends to rot when planted.
2. Botton takes long to root

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

( 3mks)

1. Place it in water until it is planted to avoid dehydration
2. Each cutting should have a leaf and a bud
3. Use sharp knife or blade to prevent breaking of the cutting
4. 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/embarkment ( 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 b 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)