FORM FOUR PAPER 1
MARKING SCHEME
SECTION A ((3OMKS)

1. Seed dressing is the process of coating of seeds with insecticides or fungicides chemical to prevent the seed from soil borne diseases. (lx1= 1 mk)

2. **advantages of row planting**
- Machines can be used easily between the rows.
- Easy to establish crop population.
- Low seed rate is used.
- Easy to carry out other operations like weeding, spraying and harvesting. (4x ½ = 2mks)

3. **Factors considered when choosing site for tomato nursery.**
- type of soil
- nearness to water source
- topography
- security
- previous cropping
- well sheltered place (4x ½ =2mks)

4. **Reasons for treating water.**
- To kill disease causing micro-organism
- To remove chemical impurities
- To remove dour / bad smell
- To remove foreign particles. (3x ½ = 1½ mks)

5. **Effect of HIV/AIDS to agriculture.**
- Loss of skilled labour through death of skilled personnel.
- Wastage of time in caring of patients.
- A lot of money is spent on treating people with HIV/AIDS.
- Government and NGOs' spend a lot of money to control HIV in expense of development ofagriculture. (3x ½ = 1½ mks)

6. **Advantages of overhead irrigation.**
- Eradicate pests e.g. Aphids.
- Minimizes wastage of water.
- Can be used in sloppy areas.
- Water is evenly distributed.
- Can irrigate a large area by changing the location of pipes.
- Foliar fertilizers can be applied using this method (4x ½ =2mks)

7. **Ways of conveying water in the farm**.
- piping
- canals
- containers (3x ½ = 1½ mks)

8. A farmer in PREMIER was advised to apply 150kg CAN/ha, while top Dressing the maize crop.CAN contain 21% N. Calculate the amount of nitrogen applied/ha.

If 100kg of C.A.N→21kg N

150kg of C.A.N→ ?

$$= \frac{150kg\ C.A.N \times 21kgN}{100kg\ C.A.N}$$

=31.5kg N/ha (2 ½ mks)

9. **Opportunity cost is zero.**
- When the item is free.
- When the item is plenty
- When the item has no alternative

10. **Importance of tissue culture**
- mass production of prop gules
- Establish pathogen free plants
- Establish fast.
- Requires less space. (3x ½ = 1½ mks)

11. **Principles of agriculture.**
- Law of opportunity cost
- Law of diminishing returns
- Law of profit - maximization.
- Principle of equal-marginal returns.
- Principle of substitution (4 x ½ =2mks)

12. **Problems facing marketing of cabbages.**
- Perish ability of cabbages.
- Poor transport
- Lack of marketing information.
- Change of market prices.
- Change of government policy. (4x ½ =2mks)

13. **Variable costs**
- cost for fertilizers.
- Cost of chemicals.
- Wages.
- Cost of fuel.
- Cost of planting seeds. (4x ½ =2mks)

14. **Constituents of soil**
- soil air
- soil water
- soil micro-organisms

- soil particles
- Soil organic matter/humus. (4x ½ =2mks)

15. **Product-product relationship**
- joint products
- competitive products
- complementary products
- Supplementary products. (4x ½ =2mks)

16. Topping — is removal of fibrous materials from the pasture after harvesting or grazing pasture while top-dressing is the application of fertilizers at the base of the pastures. (2mks) (mark as whole)

17 **factors which influence spacing of crops**
- type of soil
- growth habit
- soil fertility
- soil moisture
- number of seeds per hole
- use of the crop
- Occurrence of pests and diseases. (5x ½ =2 ½ mks)

SECTION B (20MARKS)

18 a)

A - Devil's horse whip(Achyranthes apora) (***1mk)***

B - Datura stramomium (Thorn apple) ***(1mk)***

b) - Poisonous to livestock
- Competes with crops for nutrients / light / water or space
- Increase cost of production
- Lower yields / quality

1x1 = 1mk

c) -Enables land owners / landlord to earn income from land
- Enable people who have no land to have acres to farmers land
- Idle land put into productive use
- Enable tenants to increase / decrease acreage of land leased depending on profitability

½

x 4 = (2mks)

19 - Read the label / manufacture instructions and follow them
- Measure the required amount of fungicide

- Place the fungicide into a container and mix thoroughly with a little water / pre-mix (pre-cream) until it forms a uniform slurry
- Pour the mixture into the knapsack sprayer through the sieve
- Top up / add up to the required level on the knaprack sprayer
- Spray the mixture onto the cap as required ***1***

x5 = 5 marks

Observe the procedure

20)a) Root prunning / trimming

b) - Build up of strong rooting system / compact system .
- Encourage formation of lateral roots
- Make lifting easy
- Prevent root damage
- Increase survival rate during transplanting
- ***1 x3***

= 3 mks

c) - To prevent soil erosion / water run off
- Prevent roots from being exposed
- Protect seedlings from damage

1 x2 = 2 mks

21) a) Elasticity of Demand = $\frac{\%\text{ change in Quality Demand}}{\%\text{ change in price}}$

ie ED = $\frac{\%\ \Delta\ \text{in QD}}{\%\ \Delta\ \text{in P}\surd}$

% change in QD = $\left(\frac{22-20}{20}\right)$ x 100 = $\frac{2}{20}$ x 100 = 10 %√

% change in price = $\left(\frac{800-100}{1000}\right)$ x 100 = $\frac{10}{-20}$ = -20% (mark as a whole)

ED = $\frac{10}{20} = -0.2\surd$ (Mark as awhole)

b) Inelastic demand (i.e. since ED is less than 1)

SECTION C (40 marks)

22.a)

- Pick flowers selectively
- Pick flower with horizontal petals / three to two roses of disk florets
- Use fore finger and thumb
- Pick by twisting the lead so that no stem is left attached
- Put the pricked flowers in woven baskets ***1x 4 = (4mks)***
- Picking starts 3 -4 months after planting

b) - Picked flowers are put in woven baskets to allow ventilation and avoid fermentation

- Wet flowers should not be picked since they heat up and ferment
- Should not be comp[acted to avoid heating up and fermentation
- Suitable picking intervals 14 – 21 days to avoid overgrown or young flowers
- Break flower stalks to maintain quality ***1 x6 = 6 mks***

23 a) ***Land preparation***

- Clear the land to remove all stumps
- Dig, plough the land to remove perennial weeds / roots
- Harrow the land ; to a fine filth
- Prepare the land during the dry season / before the *rains* ***1 x5 = 5 mks***

b) ***Pasture establishment***

- Select a desirable variety of grass for the ecological condition / select the correct variety for the same zone
- Plant or the onset of rains / plant early
- Use certified seeds
- Drill / broad cast the seeds evenly
- Apply phosphatic fertilizers or appropriate rate
- Use ssp rate of 200- 300 kg/ ha
- Use recommended seed rate for the variety
- Use 1.5-2 kg /ha PGS / 5-10 /ha for any available seed
- Drag a twig / gunny bag to cover the seeds lightly
- Cover seeds 3-5 times the diameter of seeds / depth ***1x8 = 8 mks)***

c)Maintenance

- Control weeds by uprooting /use herbicides
- Top dress with nitrogenous fertilizers
- Top dress with nitrogenous fertilizers
- Top dress in split application
- Cut / graze in the initial stage when 4- 6 months
- Control pests and diseases when they appear
- Avoid grazing when too young / Early defoliation
- Topping posture using appropriate method when to stemmy
- Carry out controlled grazing
- Irrigate when desirable

- Re – seeding when need ***be*** ***1x7 = 7mk***
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24a) - What extra coats will be involved in the change
- What costs will be saved
- What extra revenue from the change
- What revenue will be fore gone
- Is the change worthwhile
- ***(1 x4) = 4 mk***

b) - When replacing one enterprise with another
- When expanding are enterprise to the expense of another / reduce another
- When introducing an enterprise which is subsiding to the existing one
- When replacing one technique of production with another
- *(1x4) = 4 mks*

c)

Debit (-)	ksh	Cts	**Credit** (+)	ksh	cts
EXTRA COSTS BEANS Fertiliser 2 ½ x 0.3 x1400 Labour 40x0.3x150 Seed 200x10 **SUB-TOTAL**	 1050 1800 2000 **4850**	 00 00 00 	**EXRA REVENUE BEANS** Yield 90x0.3x300 **SUB TOTAL**	 8100 **8100**	 00 00
REVENUE FOREGONE **MAIZE YIELD MAIZE** 56X0.3X1200	 20160	 00	**COSTS SAVE** SEED 1X1350 FERTILISER 2X0.3X1400	 1350 840	 00 00
TOTAL	**25010**	00	**TOTAL**	**10290**	00

(EXTRA REVENUE +COST SAVE) – (EXTRA COSTS +REVENUE FORGONE)
(4850+20160) – (8100+2190)

-14750

If mzee mkulima replace maize for beans he will experience a lose of 14750 so he should not replace maize with beans.