

AGRICULTURE 443/1 PAPER 1

MARKING SCHEME

SECTION A-30 MARKS

1)

- i. Prevents total loss if one enterprise fails.
- ii. Mutual benefits between crops and animals.

($1/2 \times 2 = 1$ marks)

2) Aquaculture is the rearing of fish in fish ponds while apiculture is the rearing of bees in beehives.

($1 \times 1 = 1$ marks)

3)

- i. Does not pollute the environment
- ii. It improves soil structure
- iii. Produce is free from inorganic chemical residue
- iv. improves soil nutrients
- v. promote water infiltration

($1/2 \times 4 = 2$ marks)

4)

- i. Rainfall reliability
- ii. Rainfall amount
- iii. Rainfall distribution
- iv. Rainfall intensity

($1/2 \times 4 = 2$ marks)

5)

- i. Prunning
- ii. Thinning
- iii. Weeding
- iv. Wider spacing

i. ($1/2 \times 4 = 2$ marks)

6)

- i) Limits aeration/causes waterlogging
- ii) promote leaching

($1/2 \times 2 = 1$ marks)

7)

- i) Limits what people produce
- ii) Limits what people consume

(1*2=2 marks)

8)

- i. Application of Sulphur
- ii. Application of an acidic fertilizer/Sulphate of ammonia

(1/2*2=1 marks)

9)

- i. When opening up virgin land
- ii. Field where a stack growing crop was planted
- iii. When the land has been left famous for a longtime

(1/2*3=1 ½ marks)

10)

- i. Size of planting materials-Smaller seeds require more.
- ii. Slope of the land-steep land require less
- iii. Moisture content of the soil-less moisture require less
- iv. Condition of land after primary cultivation

(1/2*3 =1 ½ marks)

11)

- i. Traverse
- ii. Zigzag(1/2*2=1 marks)

12)

- i. Uniform growth
- ii. Faster maturity

(1/2 *2=1 marks)

13)

- i. Enable changing the top of a plant form undesirable to desirable
- ii. Enable growing of more than one type of fruit or flower in a tree
- iii. Enable propagation of cloves which cannot be propagated in any other way.
- iv. Short maturity time
- v. Help repair damaged trees

(1/2*2=1 marks)

14)

- i. Use of grass/filter strips
- ii. Practice cover cropping
- iii. Contour farming
- iv. Mulching
- v. Cropping system/crop rotation
- vi. Strip cropping
- vii. Vegetated/grassed waterway
- viii. Agroforestry
- ix. Afforestation/Reafforestation

(1/2*4=2 marks)

15)

- i. Some weeds are poisonous to livestock
- ii. Weeds reduce the life span of pastures
- iii. Weeds reduce quality of forage
- iv. Weeds compete with forage crops for growth factors/nutrients

(1/2*4=2 marks)

16)

- i. To reduce population pressure
- ii. To increase agricultural production
- iii. To create employment
- iv. To form Tsetse fly consolidated barrier

(1/2*4=2 marks)

17)

- i. Training
- ii. Farm mechanization
- iii. Giving incentives/improve terms and condition of service
- iv. Labour supervision

(1/2*4=2marks)

18)

- i. Knowledgeable
- ii. Hardworking
- iii. Bear practical skills
- iv. Responsible
- v. Flexible in decision making

(1/2*3=11/2 marks)

19)

- i. Regulate and control production of maize and other cereals
- ii. Safe storage of maize and other cereals
- iii. Purchase maize from farmers
- iv. Resell maize to consumers and millers
- v. Advise the minister on status/requirements of maize in the county

(1/2*3=1/2marks)

SECTION B-20 MARKS

20)

a)Tissue culture

b)

- i. Enable production of pathogen free plants
- ii. Enable production of numerous propagules
- iii. It is a very fast method of producing propagules
- iv. It requires less space

(1*3=3 marks)

c)

>Culture medium that contains nutrients for developing propagules/provide growth regulators.

(1*1 mark)

21)a)

A Formative pruning B Pegging (1/2*2 =1mark)

b)method B enable faster formation of plucking table compared to method A.

(1*1=1 marks)

method B brings the bushes to bearing faster than A.

(1*2=2 marks

)c)Use of rings and pegs

Use of parallel sticks and pegs/fitos and pegs

22)a)Daturastramonium

Thorn Apple

Nut grass/sedge Cyperusrotondus

b)

i. Poisonous to livestock and farmer

(1*1=1 mark)

ii. sedge grass is difficult to control/perrenating increasing cost of production

(1*1=1 mark)

iii. Striga weed is parasitic reducing rate of growth of the crops.

(1*1=1 mark)

23)

Debits(-)	ksh	Ct	Credits(+)	Ksh	Ct
1. Extra costs			1.Extra Revenue		
Fertilizer			Potatoes		
2 ½ bag*0.3*1400	1050	00	yield		
			90*0.3*300	8100	00
labour	1800				
40*0.3*150		00			
	2000				
seed 200*100	4850	00			
SUBTOTAL		00	SUBTOTAL	8100	00
2.Revenue foregone					
Maize yield	13440				
56*0.3*1200		00	2 Cost Saved		
			Seed 1*1350	1350	00
			Fertilizer		
			2*0.3*1400	840	00
	18290				
TOTAL		00	TOTAL	10290	00

(Extra Revenue + cost saved)- (Extra cost + Revenue Foregone)(1/2*8=4 marks)

=10290-18290

=-8000

-8000 indicates a loss, farmer should nor replace maize with potatoes.(1*1=1 mark)

24 a)

- i. Transplant when seedlings are 1 ½ months old/when seedling are pencil thick.
- ii. Water the nursery thoroughly 2 hours before transplanting.
- iii. Use a garden trowel to lift seedlings with a lump soil.
- iv. Apply appropriate pesticide in planting hole to control pests and diseases
- v. Apply phosphatic fertilizer in the plating holes.
- vi. Lift only the vigourously growing seedlings
- vii. Plant one seedling per hole
- viii. Transplant when cloudy or in the evening
- ix. Mulch the transplanted seedling
- x. Provide temporary shade to transplanted seedling
- xi. Water the seedling
- xii. Place soil around the seedling and firm
- xiii. Transplant when soil has enough moisture/onset of rain
- xiv. Space seedling at 60-100 cm by 50-60cm
- xv. Plant at a depth of 15 cm as in the nursery
- xvi. Transport seedlings carefully/use a wheelbarrow.

(1*10=10 marks)

b)

- i. Gapping to maintain correct plant population.
- ii. Topdressing when plants are 30cm high (25-30) at a rate of 100kg CAN per ha.
- iii. Weed lightly to prevent competition for nutrients
- iv. Stake to ensure clean fruits/soil borne pest free fruits prune to control cropping
- v. Control pests using appropriate insecticides/nematicides
- vi. Control diseases by using appropriate fungicides/rogueing/proper nutrition/balanced nutrition

2*5 =10 marks)

25)

a)Supplementary products-One product is increased without decreasing another in the farm enterprises due to available resources not being fully utilized.

(2 marks)

Complimentary products-An increase in the production of one product results in a simultaneous increase in the production of the other as the new enterprise is maintained by products of the initial enterprise

(2 marks)

b)

- i. Size of the farm, a large farm can hold several farm enterprises.
- ii. Environmental factors, climate soil type and topography determine specific enterprises that can be set up in a farm.
- iii. Farmers objectives and preferences, farmers become more motivated when they establish their preferred enterprises.
- iv. Possible production enterprises the most profitable and convenient enterprise should be chosen.
- v. Availability and cost of farm inputs enable affordability of the enterprises when inputs are readily available.
- vi. Security enterprises susceptible to theft should be located near the farm house to provide for them security.
- vii. Communication and transport, enable early accessibility to markets avoiding perishability of products.
- viii. Government policy and regulation determine the basic standards and requirements to establish certain enterprises
- ix. Market condition and price trends farmers opt for enterprises that give higher returns and for products that can easily be consumed/used

(2*7=14 mark

- x. Safe disposal of chemical containers by deep burying/incineration
- xi. Locating latrines away from water sources
- xii. Control soil erosion through terracing, afforestation to prevent siltation
- xiii. Avoid bathing and cleaning in water bodies
- xiv. Use the required quality of fertilizer/as unused fertilizer may be washed into water bodies
- xv. Avoid cultivating along river bank to prevent riverbank erosion

(2*5=10 marks)

b)

- i. Lack of security/collateral ;most farmers are poor and this unable to raise the required security against loans.
- ii. Loans may end up being diverted; to uses that were not initially intended.
- iii. High interest rates; result in high repayment amounts compared to earnings
- iv. Low level of knowledge and skills; in the management of credit
- v. Poor farm records; thus reducing eligibility to obtain loan.
- vi. Non- payment; may result in auctioning of assets belonging to the borrower.

(2*5=10 marks)

