443/ 1 AGRICULTURE (2018)
KCSE TRIAL EXAM
PAPER 1
MARKING SCHEME

SECTION A (30 marks)

1. a) Thinning
Gapping

2x½=1mk

b) Thinning- removes excess seedlings from the field
Gapping- replaces lost/seeds that did not germinate

2x½=1mk

2. -Skills/level of training
- Level of mechanization/ efficiency of the machines
- Degree of motivation
- Level of supervision
- Level of remuneration 4x½=2mks

3. -Participating in exhibitions and competitions at ASK shows
- Involvement in agricultural projects at the club level.
- Participation in YFC annual rallies
- Involvement in workshops and seminars and seminars related to sericulture
- Participating in national tree planting activities
- Involvement and participation in exchange programme
- Participation in national sloughing contests 4x½=2mks

4. -Threshing/shelling - Drying
- Cleaning - Dusting 4x½=2mks

5. -Amount of rain that falls within a given period of time usually per hour 1x1=1mk

b) -It damages crops e.g. leaf fall, fruit fall
- It results in high water runoff thus increasing chances of soil erosion.
Results in destruction of farm structures e.g. soil conservation projects 3x½=1½mks
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6. -Apply organic manures
- Apply lime
- Drain excess water
- Plant trees e.g. eucalyptus spp
- Plant grass leys 4x½=2mks

7. -Banking - Credit
- Artificial insemination - Agricultural research
- Marketing - Veterinary services
- Farm input supplies 4x½=2mks

8. -Type of silo
- Degree of compaction
- Forage species used
- Type of additives
- Stage of harvesting/leaf stem ration 4x½=2mks

9.
-Mutual benefit between crops and livestock
-Income is spread over a long period
-The farmer is insured against total loss

-Animals can be used to work in the farm
-Enables distribution of labour throughout the year 4 x ½ =2mks

10. a) Fixed assets consists of property of a durable nature used in the farm for long
- Current assets- are those properties likely to be held for a short period of time usually less than a year.
Mark as whole *1mk*

b) Delivery note- document that accompanies goods on delivery.
o Purchase order- a request to a trading business firm to supply specified goods
Mark as whole *1mk*

11. -Control soil erosion due to ground cover.
-Reduces cost of production.
-Saves time per pasture establishment
-Efficient land use. 2x½=1mk

12. –Haraka schemes - Shirika schemes
- Lari settlement schemes - Squatter's settlement scheme 4x½=2mks

13. - Growing resistant varieties
- Seed dressing
- Field hygiene/ burning infected crop residues
- Spraying
- Use of clean seeds 4x½=2mks

14. - Size of seed - Moisture content of the soil
- Type of soil - Type of germination 4x½=2mks

15. – Shifting cultivation
- Traditional systems e.g. land inheritance by family members
- Accumulation of land holdings
- Land may be used to settle debts
- Population pressure on a limited area.
4x½=2mks

16. - Synthetic mulch is non-biodegradable
- Mulch may act as breeding places for pests
- Synthetic mulches are expensive
- Organic mulches can catch fire easily
- Trap light shower 4x½=2mks

SECTION B

17. a) K –maize weevil or *Sitophiluszeamais*
L –Weaver bird
M – Squirrel 3x½=1½mks

b) - Dry grain that is in storage
- Milk stage
- Seedling stage or grain at planting stage 3x1=3mks

c) K – Timely harvesting
-Use of resistant crop varieties
-Dusting grain before storage

L –use of scare crows to scare them away
-Poisoning them

M – Poisoning using rodenticide
-Use of scarecrows

-Trapping

(*Anyone correct for each pest*) 3x1=3mks

18. a) -whip /Tongue grafting ½mk

b) S – scion
T – Root stock 2x1=2mks

c) -Ensure the rootstock and scion have the same diameter
-Make a slanting cut with a sterilized sharp knife on the scion bottom and top of the rootstock
-Fit the two separate parts
-Wrap the attachment with grafting or budding tape tightly 3x1=3mks

d) -mangoes - peach -Avocadoes -pears -Plums -citrus 1x1=1mk

19. a) The document is the one which a buyer receives from a seller after goods and services have been sold and payments made in cash (1mk)

CASH SALE

PHONE 05221 P.O BOX 2004
NAKURU
2/7/2007

FROM: SHAMJI TRADERS
TO: M/S: JANE

Qty	Particulars	@	Shs	Cts
3 Kgs	Sugar	75	225	00
½ kg	Cooking fat	120	60	00
20 Kg	Rice	40	800	00
4 pkts	Wheat flour	75	300	00
2 pkts	Baking powder	20	4	00
3 kgs	Minced meat	150	450	00
E & O E No. 1203		Total	1875	00
Goods once sold are not				

Each correct entry ½ mk 10x½ =5 *(5mks)*

b) If purchases were made on credit in invoive could have been used (1mk)

SECTION C

20. a)-Clear bushes/vegetation
- Plough the seedbed
- Farrow to fine tilth
- Remove perennial weeds
- Prepare land early in dry season
- Roll to firm the seedbed
- Select suitable grass variety for the area
- Use phosphotic fertilizers for planting
- 200-300 Kg the s.s.p is used
- Drill/broadcast seeds events
- Use recommended rate of 1.53.0/ha of P.G.S
- Drag gunny bags to cover the seed
- Control weeds using appropriate method
- Apply nitrogen fertilizer 6 wks after germination in split
- Practice light grazing at the initial stages
- Do not graze when pastures are too young

10x1=10mks

b) -Highly nutritive/ more nutritious
- Higher yields per unit area
- Improves soil fertility
- Economy on use of nitrogen
- Has better weed control

- Has better pest control over pure grass
- Diversification- if one fails the other may succeed 6x1=6mks

c) - Application of fertilizer to the plant and top dressing
- Weed control to reduce competition for nutrients etc
- Grass or harvest pasture at the right stage to avoid wastage
- Ensure proper stocking rate to avoid damage to pasture
- Conserve excess pasture to avoid wastage -Control grazing 1 x 4 = 4 mks

21. Shortcomings of weeds in mixed farming
- They reduce quality of farm products e.g. Mexican marigold taints milk.
- Some lower quality of pasture/ lower carrying capacity
- They compete with crops for nutrients space light
- They poison livestock e.g. thorn apple
- They form alternate hosts for pests and disease
- Some are alleloplathic- suppressing the growth of cultivated crops by producing toxic compound
- Some cause irritation e.g. stinging nettle
- They form alternate hosts for pest and disease
- Aquatic weeds block irrigation channels
- Their control increase cost of production

8x1=8mks

b) **Stage I**: **Filtration of water intake**.
- Water from source river is made to pass through a series of sieves.
- Large particles of impurities are trapped by the sieves.
- Water then enters into the large pipe to be directed to the mixing chamber.

Stage II: **Softening of the water**.
- Water circulates in the mixing chamber and doses of soda ash to soften the water.

Stage III: Coagulation and sedimentation
- Water is passed through coagulation tank where fresh air enters to remove bad smell/ chloride of lime used.
- Water stays for 36 hours thus solid particles settle and bilharzias causing organisms killed.
- Alum added to coagulated solid particles which settle at the bottom.

Stage IV: Filtration
- Water is passed through filtration tank with layers of sand and gravel to filter it.
- Water leaving the filtration tank is clean.

Stage V: Chlorination
- Water is passed through chlorination tank where chlorine is added.
- Micro-organisms in the water are killed by chlorine.

Stage VI: Storage
- The treated water is stored in large overhead tanks before distribution and use. 12x1=12mks

22. a) -Improper crop and livestock production techniques
- Develop[p improved crop varieties
- Determine suitable ecological zones for various crop, livestock
- Develop new techniques of controlling crop pests, diseases
- Improve pastures and fodder quality
- Co-ordinate research work done to improve crop and livestock throughout the country in order to avoid duplication of work 5x1= 5mks

b) Crops benefit from nitrogen flush
- Escape from occasional unendurable field conditions e.g. frosts, hail storms, floods Benefits from full moisture utilization
- Escape from weeds/outgrows weeds
- Escape from field pests
- Benefits from high market demand during scarcity
- Benefits from availability of labour resources
- Benefits from availability of yield machinery
- Fits well, enable proper planning, budgeting etc

7x1=7mks

c) Infertile soils
- High temp
- Excessive rainfall
- Hailstones
- Inappropriate soil P.H

- Excess winds
- Low temp
- Low rainfall
- High humidity

8x1=8mks