**443/1**

**Marking scheme**

**AGRICULTURE TRIAL 2**

**PAPER 1 END TERM 1 2019**

**SECTION A (30 MARKS)**

1

* Agro forestry
* Mixed farming
* Organic farming
* Nomadic farming
* Shifting cultivation ( ½ x4 marks )

2

* Less labour required
* Requires small size of land
* Limited tools / implements
* Maximizes the use of available labour ( 1 x 2 marks )

3.

1. High quality
2. High yielding
3. Disease resistant
4. Healthy / pest and disease free
5. Adapted to the environment
6. Fast growth / early maturity (4x ½ =2mks)

4 – Co - operative societies any 4 x ½ = 2mks

-Settlement trust fund

-Commercial banks

-Crop boards

-Agricultural finance co-operation

-Grants / donations

-NGOS

-Private money lenders

5. Four benefits of optimum soil temperature

* Enhance seed germination
* Enhances plant growth.
* Enhance soil microbial activities
* Improves quality of crops e.g. Tea, pineapples. (2x 1 =2mks)

6. Four factors that influence soil productivity

* Soil depth / drainage / aeration
* Water holding capacity
* Level of nutrients / cation exchange
* Soil pH/ Soil borne – pests and diseases. (4x ½ =2mks)

7. **Reasons for root pruning.** (1 mark)

* Make lifting of seedlings during transplanting easier.
* To minimize root damage during transplanting.
* For seedlings to develop short and dense root system.

8. **Sources of nitrogen in the soil.** (2 marks)

* Nitrogen fertilizers e.g. CAN and urea.
* Organic manure. Ac. specific organic manure e.g. Farm yard manure, compost manure.
* Fixation by nitrogen fixing bacteria.
* Fixation by lightning.
* Action of algae in paddy rice fields.

9. Factors that affect budding in Tea and Sugar cane

- Light intensity

- Level of oxygen supply

- Relative humidity

- Leaf surface area (4x ½ =2mks)

1. - The type of crop grown

* The size of the farm
* The capital available
* The type of weed to be controlled
* The spacing of the crop ( 4x ½ = 2mks)

11. Four types of terraces.

* Broadbased terraces.
* Narrow based terraces.
* Bench terraces.
* Fanya juu terraces. (4 x ½ =2mks)

12. (i) Prevents evaporation of moisture

(ii) Reduces soil temperature

(iii)Reduce run off

(iv)Inverse water infiltration into the soil (2 x ½ =1mk)

13. Differentiate between under-sowing and over-sowing as used in forage Production

-Over sowing: introduction of legume into an existing grass pasture.

-Under sowing- Introducing a pasture under a cover crop such as maize. (2mks as a whole)

14. Two activities carried out by YFCK.

* Plant trees/ carry out agriculture projects in schools.
* Organize and participate in annual YFCK.
* Organize agricultural field days for community.
* Participate in agricultural exchange programs. (2 x ½)=1mk

15. Methods of reclaiming water logged land

* Planting of appropriate trees e.g Eucalyptus spp
* Pumping of water especially in low lying areas
* Sub – surface drainage, using perforated/ porous pipes
* Surface drainage e.g through canals
* Constructions raised beds that can be used for growing some crops

3 x 1 = 3 mks

**Section B**

16**.** (a) American bollworm ( 1x1=1mk)

(b)

* Chemical method
* Early planting
* Rogueing
* Trap-cropping (½ x 4 )

(c)

* Degree of ripeness
* Colour
* Size
* Shape
* Wholesomeness
* Whether processing or fresh market variety (1x2 =2mks)

17. (a) open ditch 1mk

(b)

1. Increases soil volume
2. Increases soil aeration
3. Removes toxic substances
4. Raises soil temperature
5. Increases microbial activities 2mks

18. ½ ha plot is equivalent to 5,00m2

Plant population Area of land

Spacing **√** 1

= 50000000cm

60cm x 100cm

Or 5000m2 **√** 1

0.6m x 1m

= 8333 plants **√** 1

(b) Expected yields are obtained

Crops of high quality are obtained

Correct seed rate is used

19. a) Identify the feature that the diagram above represents

Soil profile

b) Name the parts of the diagram labeled B, C and D

Parts B- Subsoil

C- Substratum/weathered rock

D- Parent rock/ Bedrock

c) Outline three characteristics of the part labeled A

-Dark in color/contains, a lot of organic matter

- Rich in plant nutrients

- Is well aerated ( 1 x 3=3mks)

**Section C**

20(a)

i) Bulkiness of produce

* Poor storage of produce
* Seasonability of crops hence demands variations;
* Perishability of farm produce
* Lack of adequate market information
* Change in market demands
* Poor transport system
* Delayed payment of delivered produce;
* Competition from cheap imports and synthetic products
* Multiple taxation (8x1marks)

ii) Encourage farmers to establish co-operatives; (1 x 2 = 2mks)

* Review and harmonization of taxation;
* Proper education/extension services to the farmers;
* Joining of stabilization funds. (1x5=5marks)

b) To promote the production of agricultural products;

* Quality control/standardization of products;
* Processing to increase market value;
* Control the exportation and importation of particular farm products
* They auction/sell the products;
* Buying the product from the farmer;
* Importation of inputs;
* Control commodity prices;
* They store the products
* Organize credit facilities for the farmers
* Advertise the product;
* They control supply;
* Publish market information;
* Package the product;
* They research/provide farmer education on technical issues;( any 5 correct answers 5x1=5 marks)

21a)

(a) - Is of high nutritive value

- More palatable

- Total failure is rarely expressed.

- Yields area comparatively high.

- Covers maximum utilization of soil nutrients.

- Soil fertility is improved. *(6 x 1 = 6 mks)*

(b) - Protect soil below from raindrop erosion by reducing the force with which it falls on the

ground.

- Provide shade and reduce loss of moisture through evaporation.

- Acts as wind breaker lowering the rate of erosion.

- Their roots hold the soil reducing soil removal.

- Reduce the speed of running water reducing its erosive power.

- The roots bind soil particles together reducing their erosion.

- Their leaves decay to supply humus to the soil which improves the infiltration rate of the soil.

*(Stating one = 1 x 5 = 5 mks)*

*(Explanation 1 x 5 = 5 mks)*

***Total = 10 mks***

(c) - Do not pick the lint when it is wet.

- Pick on weekly basis

- Avoid dry twigs or leaves contaminating the cotton.

- Do not use sisal bags to hold cotton as the sisal fibre may contaminate lint. *(4 x 1= 4 mks)*

22. Effects of liberalization of Agriculture markets to farming in Kenya.

* Flooding of local market with cheaply produced products such as sugar from Brazil.
* Countries like Kenya have subsidized production costs produce cheap agriculture products therefore may not export some of these commodities resulting to low income.
* Some companies have closed down rendering most people jobless.
* Developing countries like Kenya can now market their products to other countries which due to their climatic conditions cannot produce the same products.
* Agricultural inputs can be acquired from cheaper sources that are nearer and cheaper.
* Bilateral trades relations do not have to have strings attached.
* Lead to diversification of Agriculture commodities.

( 5x2=10 marks)

(b) How price is determined in a free market situation.

* Prices are determined by the supply and demand forces in the market.
* When price is high supply is high but the demand is low. When the price is too low the supply is also low, but the demand is high.
* When quantity demanded is equal to quantity supplied then this is an equilibrium price. There’s no competition among supplier and consumers because both parties are satisfied.

(1x3=3 marks)

(c) How government policies affect agricultural production

* Heavy taxation of imports in order to protect local industries.
* Subsidizing the growing of locally produced commodities. This makes commodities cheap and affordable by farmers.
* Quality control i.e. controls the production of high quality goods for export and domestic markets.
* Conservation of natural resources to sustain agriculture.
* Stepping up the control of diseases and parasites that affect crops and livestock e.g. by imposing of quarantine, vaccination of animals.
* Motivating agriculture extension workers so that they can disseminate modern farming techniques.
* Encouraging and providing farmers training.

(1x7 = 7 marks)