**NANDI EAST, NANDI SOUTH AND TINDERET DISTRICTS JOINT MOCK 2013**

**443/1 - AGRICULTURE PAPER 1**

**MARKING SCHEME**

1. (a) Organization of the farm and all the enterprises in relationship to each other.

(b)

* Level of technology
* Land availability
* Capital availability
* Skilled labour
* Market availability (any 3x½ = 1½mks)

1. (i)

* Heavy taxation on imports.
* Subsidizing locally produced commodities.
* Quality control to produce high quality goods.
* Conservation of natural resources.
* Stepping up control of diseases and parasites through quarantine, vaccination e.t.c. (any 4x ½ = 2mks)

(ii)

* Bring rain bearing clouds.
* Seed dispersal.
* Brings cooling effect in humid areas.
* Facilitates pollination. (any 2 x ½ = 1mk)
* To give weeds and other vegetation time to dry up.
* Allows for gaseous exchange in the soil.
* Enough time for other subsequent operations.
* Early planting. (any 4 x ½ = 2mks)
* When the land is fairly level.
* When a lot of water is available.
* When soil can hold a lot of water / when soil have high capillarity.
* When growing certain crops e.g. rice. (4 x ½ = 2mks)

1. (i) Salt accumulation on or below the soil surface.

(ii)

* Cause water deficiency in plants.
* Change in soil pH.
* Loss of soil fertility.
* Dam number
* Sire number
* Date of service
* Expected and actual date of delivery.
* Weight of calf.
* Calf number.
* Remarks (any 2 x ½ = 1mk)

1. (i) Prevent volatilization. ( ½ mk)

(ii) Faster absorption before leaching. ( ½ mk)

1. (a)

* No new crop varieties formed.
* Difficult to keep materials free of diseases.
* Materials cannot be stored for long.
* Bulky materials – difficult / expensive to store and transport. (4 x ½ = 2mks)

(b)

* Many seedlings in a small area.
* Easy to carry out routine management practices.
* Best conditions for growth can be provided.
* Facilitates planting of small seeds.
* Facilitate transplanting of health seedlings.
* Reduces growth period taken in the field.
* Excess seedlings can be sold to earn income. (4 x ½ = 2mks)
* Pinching out
* Annual pruning
* Coppicing or pollarding (2 x ½ = 1mk)
* Prolonged maturity.
* Cracking of fruits before maturity
* Blossom end rot in tomatoes.
* Too much vegetative growth at the expense of fruit formation. (4 x ½ = 2mks)

1. (a)

* Shifting cultivation
* Traditional system
* Population pressure on a limited area of land.
* Accumulation of land holdings
* Traditional way to settle debts. (4 x ½ = 2mks)

1. (i) Narrow-leaved weeds

(ii) Broad-leaved weeds (2 x ½ = 1mk)

* Soil fertility is lost.
* Creation of lakes.
* Damaging of property.
* Loss of life.
* Soil erosion.
* Permanent scars on the landscape.
* Tourist attraction features formed e.g. crying stone. (any 3x ½ = 1½mks)

1. (i) Combination of methods in control of crop pests.

(ii) Damage beyond tolerance by pests hence a control measure must be effected.

* Remove excess leaves.
* Chase away dangerous animals e.g. snakes. (2 x ½ = 1mk)

1. (a)

* High moisture content.
* High protein content on weight basis.
* Very low DM content / Low Dry Matter yield.
* High Dry Matter digestibility but low digestible nutrients.
* Weakening of stand / reduced productive life of the stand. (any 2 x ½ = 2mks)

(b) If the output is constant, it is profitable to substitute one input factor for another, as

long as it is cheaper than the one being substituted. (any 1 x 1 = 1mk)

* Boundaries
* River banks
* Terraces
* Slopes
* Homestead (any 2 x ½ = 1mk)

**SECTION B (20MARKS)**

17. (a) – A

(1 x 1 = 1mk)

(b) – Weed A has the leaves at an acute angle to the stem thus providing room for herbicide

to accumulate and thus cause damage. (1 x 1 = 1mk

(c) – Stage of growth of plant

- Age of plant

(2 x 1 = 2mks)

18. (a) – Stem cutting

(b) – Dusting chemicals

- Soaking in water

(2 x 1 = 2mks)

(c) – Tea

- Cassava

- Bounganivillia

(2 x 1 = 2mks)

19. (a) – French drain (1 x 1 = 1mk)

(b) – Crops are grown on top of the drainage

(1 x 1 = 1mk)

(c) – To increase soil aeration

- To increase soil volume

- To raise soil temperature

- To increase microbial activities

- To reduce soil erosion

- To remove toxic substances

(4 x 1 = 4mks)

20. (a) Splash/rain drop erosion (1 x 1 = 1mk)

(b) – Bare land

- Slopy land

(2 x 1 = 2mks)

(c) – Planting grasses

- Planting trees

- Mulching

- Rain water harvesting

(2 x 1 = 2mks)

28. (i) Splash erosion – Dispersion of soil at the point of contact with rain drops

(ii) Sheet erosion – removal of soil from the surface in form of thin uniform sheets

(iii) Rill erosion – removal of soil by moving water inform of small but well defined channels

(iv) Gulley erosion – small channels in rill erosion become deeper and wider forming deep, wide

and long ditches

(v) River bank erosion – removal of soil from along the banks of rivers/streams

(vi) Solifluction – flow of soil saturated with water down a slope by gravitional force

also known as mass wasting

(vii) Landslide – the sudden movement of rock debris/soil down a slope

Stating 5 x 1 = 5mks

Explaining 5 x 1 = 5mks

4.

(b) Factors influencing soil erosion

(i) Rainfall intensity – the higher the rainfall intensity the higher the rate of soil erosion

(ii) Type of soil – coarse textured soils e.g. sandy soils are easily eroded compared to fine textured soils

(iii) Soil depth – shallow soils get saturated with water very fast hence they are easily eroded.

(iv) Ground cover – vegetation cover protects the soil against agents of erosion. Bare ground exposes the soil to erosion

(v) Land use – some farming activities encourage soil erosion e.g. overstocking, continuous tillage

(vi) Slope of the land – the higher the gradient, the higher the rate of erosion

Stating 5 x 1 = 5mks

Explaining 5 x 1 = 5mks