**CASPA. AMUKURA PARISH, 2021. AGRIC. F2. MARKING SCHEME**

1. **Plumbing tools**

- Pipe cutter

-pipe wrench

-stock and die

 2**. factors influencing soil formation**

 - Biotic factors

 -parent rock

 -topography

 - Time

3. **Conditions for land clearing**

 -Opening up virgin land

 -presence of stalks from previous crops

 -long interval between primary and secondary tillage

 - When land is left fallow for long

4. **Physical weathering agents**

 -wind

 - moving water

 - moving ice

 - moving ice

5**. Forms in which nitrogen is absorbed**

 -nitrate ions

 -ammonium ions

6. **Information contained in field operation records**

 - Date of land clearing

 -date of cultivation

 -date of planting

 - Type and quantity of fertilizer and weeding

 -variety of seeds used

7. a) Land size = 10m×40m= 400m

10000m2= 200kg

Thence 200kg ×400 m

 10000

=8kg

b) 25% nitrogen

15% phosphorus as P2O5

5 % potassium oxide k2O

8. **Characteristics of small scale farming**

 -small size of land

 -limited capital investment

 -limited tools and equipments

 -less labor requirement

 - Maximum use of available resources

9. **Importance of sub-soiling**

 -break hardpan

 -improves water infiltration deep into the soil

 - helps to conserve soil moisture

 -brings deep leached nutrients to the surface and make it available for plant use

10. Minimum tillage is the application of combination of farming practices aimed at least disturbance of the soil

11**. Problems associated with using organic manure**

 -is labor intensive in application and transport

 -loss of nutrients if poorly stored

 - delayed decomposition and release of nutrients

 -spread pests and diseases

 -easy spread of weeds

 - Risk of fire outbreak

12. **Characteristics of dairy animals**

- Bodies are wedge or triangular shaped

-have a straight top line

-have well set apart hindquarters to allow room for the big udder

- have large and well spaced udders with large teats that are well spaced

- have prominent milk veins

-have a large stomach capacity

- are docile with mild temperament

13. **Conditions under which opportunity cost is zero**

 - When there is no alternative

 -when goods are offered for free

 - When resources are not limited

14. **Factors influencing spacing in a pure stand maize**

**-**use of the crop i.e. silage material is planted at a closer spacing

-moisture availability i.e. areas with high rainfall have closer spacing

-pest and disease control i.e. proper spacing discourages infestation of some pests and diseases

-soil fertility i.efertile soils have closer spacing

15.

Plant population = area of land

 Spacing of crop

 1ha=10000m2

Spacing = 1m×0.5m

Plant population = 10000÷0.5

 20 000 plants

16. **Characteristics of nitrogenous fertilizer**

- highly soluble in water

-Highly mobile in the soil

-Easily leached

-Has scorching effect

-Easy to volatilize during hot season

-Are hygroscopic

17. **Factors determine timing of planting**

-rainfall pattern

-Type of crop to be planted

-Soil type

-Market demand

-Prevalence of pests and diseases

-Weed control

SECTION B

18.

a) Ridging

b) Digging soil in a continuous line and heaping it on one side to form a ridge (bund) and a furrow.

 -Ridges facilitate tuber expansion

-Easy harvesting of the root crops.

-They help to conserve soil and water.

19 a) calcium

 b) nitrogen

 c) potassium

 d) phosphorus

20. a) Traverse method

b) -Avoid collecting soils from dead furrows, old manure heaps

-Mix collected soils thoroughly

-Do not put soils in containers which are contaminated with fertilizers or chemical containers

c) - To determine the PH value of the soil hence determine the crop to grow.

 - To determine the nutrient content hence find out the type of fertilizer to apply.

 - To determine whether it is necessary to modify the soil pH for a crop

21 a) four heap system or stack method

b)

c)-Well drained place – this avoids water-logging which may cause leaching of nutrients.

 -Direction the prevailing wind – this aims at preventing bad smells from being blown to the homestead.

-Size of the Farm –the site should be centrally placed on the farm.

**SECTION C**

22. a) **Characteristics of Fertile Soils**

-Good Depth: Deep soil gives plants greater volume to obtain nutrients and also provide anchorage.

- Good water holding capacity: This ensures that water is retained well for plant use.

- Proper drainage: Well drained soils are well aerated facilitating healthy root development.

-Correct soil pH. Different crops have different nutrient requirements.

-Adequate nutrient supply. It should supply the crops with the nutrients they require in adequate amounts.

- Free from excessive infestation of soil borne pests and diseases

b) -Nearness to water source. For easy watering.

-Type of the soil. Soil should be well-drained, deep and fertile preferably sandy loam.

- Topography. Should be sited on a gentle slope to prevent flooding and erosion through runoff.

- Security. Should be well protected from theft and destruction by animals.

- Previous cropping. Avoid sitting it on an area where the same crop species had been planted to avoid build up of pests and diseases.

-*Well sheltered.* Windbreaks are necessary to prevent strong winds, which can uproot the seedlings and cause excessive evaporation.

23.a ) - **Mixed Farming.**  **This is the growing of crops and rearing of animals on the same farm.**

 **-Nomadic Pastoralism**. Pastoralism**:** This is the practice of rearing livestock onnatural pastures.

Nomadism: This is the practice of moving from one place to another. Pastoral-nomadism is therefore the moving of animals from one place to another in search of pasture and water.

 This is common in the arid and semi-arid areas

**Shifting Cultivation.** Farming on a piece of land continuously until it isexhausted after which the farmer moves to a new morefertile land.

**Agro forestry**. Agro forestry - Involves growing of trees and crops and keeping of animals on the same piece of land at the same time

 23.b)

1. P205

40%×200

 =80kg

 100

1. K20

 20%×150 =30kg

100

1. 60%×150 =90kg

100

23. c) -Source of employment

 - provide raw materials to industries

 - Source of food

 -earns a country foreign exchange

24. a)

**Methods of drainage**

**-Use of open ditches/channels/furrows.** Ditches are dug for water to flow by gravity lowering the water table.

**- Use of underground pipes.** Perforated pipes are laid underground and water seeps Into them, then flows to a water way. The pipes are made of plastic, metal (steel) or clay.

**- French drains-** Ditches are dug and filed with stones and gravel and then covered with soil. Water from the surrounding area seeps into tem the flows to a water way.

**-Cambered beds-**Raised beds are constructed in combination with ditches in the poorly drained soil such as the black cotton soil.

**-Mechanically pumping.** In the low lying areas where the other methods of drainage cannot be practiced, water is mechanically pumped out of the soil.

**Planting of Trees.** Trees such as eucalyptus can be planted in water logged areas as they lose a lot of water through.

b) **Advantages of sub-surface irrigation**

 -Minimizes labour requirement especially in changing of water pipes.

- Minimizes possible theft of water pipes.

- Economizes on the use of water.

- Can be practiced on both sloppy and flat land.

-There is no soil erosion.

-No growth of weed between the rows.

-Water under low pressure can be used as long as it can flow along the pipe

c) -provide food

 -earns a farmer income/money

 -Cultural uses e.g paying dowry

 -Recreational purposes e.g bullfighting

d) –clean after use

 -repair broken parts

 - oil/grease moving parts.

 - Store in a safe place after use.