**CROP PRODUCTION IV**

**(FIELD MANAGEMENT PRACTICES)**

1. Staking is supporting tall varieties of tomatoes using a stick fixed next to the plant and tied with

 sisal string while propping is supporting banana plant with sticks Mark as a whole= 1 mk

2. five advantages of crop rotation

* Improves soil fertility: where legumes are included nitrogen is fixed/ added in the soil
* Control pests and diseases: disrupts the life cycle of certain pests and diseases
* Control weeds: control weeds which are specific to certain crops e.g. striga in cereals/ cover crops in a rotation will smother certain weeds
* Better use of the soil nutrients: different crops (due to differing root systems) draw nutrients from varying soils horizons/ different crops require different nutrients
* Control of soil erosion: cover crops included reduce soil erosion
* Improve soil structure: When grass lays are included which during the period organic matter will accumulate to enrich the soil and improve soil structure

3. four factors which influence the stage at which the crops are harvested.

 - Purpose of the crop / maturity.

 - Moisture content.

 - Concentration of certain chemicals.

 - Water condition.

 - Market demand.

4. a) B. - Single stem pruning system. (1x1=1mk)

b) Identify the system of pruning in C.

 - Multiple stem pruning system. (1x1=1mk)

c) Outline how pruning in diagram C is carries out.

- Main stem of the seedling is capped/ cut stem at 38 – 60 cm high.

 - Two or three suckers are selected and allowed to grow while the rest are removed

5. Two functions of earthling up in crop production

* To influence tuber expansion
* To retain water between the ridges which increases water conservation/infiltration
* Reduces soil erosion

- To prevent the greening effect in potatoes

6. (a) The factors which determine the stage of harvesting of crops

* Stage maturity of the crops
* Use of the crop
* Tastes and preferences of consumers
* Weather conditions
* Chemical conditions
* Chemical concentration of the chemical
* Moisture content ( 1mk x any 6pts = 6mks)

7. - Reduces runoff thus increasing amount of water into the soil

Reduces evaporation thus increasing the amount of water retained

8. - Moisture content of soil

* Use of which the crop is to be put
* Number of seeds per hole
* Prevalence of certain diseases/ pests
* Machinery to be used in subsequent operations
* Fertility status of the soil

9. i) To acclimatized the seedlings to direct light/ conditions in the seedbed

 ii) To avoid overcrowding and reduce competition for light.

 iii) Produce healthy and strong seedling

 iv) To obtain correct plant population

10. Two factors that determine the stage of harvesting crops are:-

* Purpose of crop
* concentration of required chemical

11 a) - Weather condition

* Use/ purpose
* Stage of growth
* Concentration of the required chemicals (i.e. tea) ( ½ x4=2 mks)

 b) - Proper drying of produce

* Keeping storage facility/ structure clean
* Use of pesticides on storage structure
* Treating produce with pesticides e.g. cereals

Use of rodent guards

12. Enable controlling over bearing by ensuring required leave ratio

* Open up canopy for air and light penetration
* Reduce chemical waste
* Control pests and diseases
* Allow other field operation

Give crop desired shape

(c) Which factors are considered when carrying out a crop rotation program?

13. a) -Removing of chaffs by use of wind

 b)i)- Prevent erosion

* Add organic matter
* Conserve soil moisture
* Raise soil temperature ( ½ mk)

ii) - improve quality of grains by separating them from rest of plant (½ x1= ½ mks)

 c) - Root systems of crops

* Botanical relation of crops
* Nutrient absorption by plant

Susceptibility to pests, diseases or weeds

14. a)This is support given to crops with weak stem. So as to grow in the desired direction

b) -Makes the plant to get enough sunlight to manufacture food i.e. prevent shading

 -leads to more productivity

-reduced infections of diseases from the grounds

15. (a) Some crops are harvested earlier e.g. maize for silage at silking stage while maize for grains when the grains are dry;

 (b) A crop can be harvested earlier when the market demand is high;

16. It is a farming practice that involves the removal and destruction of crop plants which are heavily

 infested with pests and diseases from the field.

17. It is the replacement of old bearing stems by suckers. The cycle is usually changed

 after 4 – 6 years.

18. a)- Earthening up

 b) Importance of the above practice

 i) Maize - provides support to prevent lodging

 ii) Irish potatoes – Improves tuber formation

 c) During second weeding

19. Four factors which determine the stage at which crops are harvested

* Original conditions of land
* Soil type
* Cost
* Size of planting materials
* Soil moisture type of implement

20. Two limitation of using polythene sheets as mulching materials in a field of tomatoes Expensive

* Requires skilled labour
* Does not decompose

May overheat soil around crop roots

22. - suckering

 -Pruning of leaves

 -Propping

 -Mulching

 -Earthing up

23. - Smothers weeds

 -Regulate soil temperature

 -Conserve moisture

25. -passion fruits

 -Deep rooted

 -Nitrogen fixing

 -Good by-products

 - Friendly too crops / not affent crop