MARKING SCHEME FORM 1 AGRICULTURE

1. Conditions under which shifting cultivation is practicable

-Communal land ownership

-Large pieces of land

-Sparse population. 3x1 = 3mks

2. Disadvantages associated with the burning of land.

- Destroys beneficial soil micro – organisms

- Destroy the soil structure

- Destroy soil organic matter

- Pollutes the air

- Reduces soil fertility by vaporizing nutrients. 4x 1 = 4mks)

3. The environmental conditions that may lead to poor crop yields

- Strong winds

- Low relative humidity

- Lack of or excess rainfall

- Extreme temperatures

- Low light intensity 4x 1 = 4mks)

4. Human factors that influence production and distribution of crops and livestock

- Level of education and technology

- Health

- Economy

- Government policy

- Transport and communication

- Cultural practices and religious beliefs

- Market forces.

- Labour supply (4x 1 = 4mks)

5. A) Sub – soiling is the practice of breaking hardpans compacted soil in the sub soil. 1x 1 = 1m

b) Advantages of minimum tillage

- Save money and time of cultivation

- Controls soil erosion

- Reduces loss of nutrients through oxidation

- Minimizes soil structure disturbance/ maintain soil structure

- Reduces root disturbance

- Conserves moisture

- Reduces labour requirements 4 x 1 = 4mks)

6. Types of pumps

-Centrifugal pumps

-Piston pumps

- Semi –rotary pumps

- Hydram. 3x 1 = 3mks)

7. Properties of clean and safe water

-Free of pathogens

- Colorless/ Clear

-Odorless

-Tasteless

- Neutral Ph

- Free of foreign contaminations. 4x 1 = 4mks)

8. Methods of surface irrigation

- Basin irrigation

- Flood irrigation

-Furrow irrigation (3x 1 = 3mks)

9a) Drainage is the removal of excess water from the land/rehabilitation of swampy land 1x1 = 1mk

* Too much rainfall on low land
* Shallow soil profile
* Hardpans
* High water table
* High water retention and holding capacity 3x 1 = 3mks)

10. Agricultural practices that cause water pollution.

-Sewage and other oxygen demanding wastes.

- Plant nutrients that can stimulate the growth of aquatic plants/ algae

- Exotic organic chemicals eg pesticides

- Petroleum, especially from oil spills

- Sediments consisting of soil and mineral particles washed by storms and flood water

From farms.

* Effluents from agricultural processing factories.
* Surface – active substance in detergents. 4x 1 = 4mks)

11. A tool used for each of the following operations

i) Strip cup 1x1 = 1mk

ii) Hoof cutter 1x 1 = 1mk)

12a) Identification of tools

D – Hacksaw (1x 1= 1mk

E - Cross – Cut saw (1x 1= 1mk)

b) Function of each tool.

D – For cutting wires and metals ( 1x 1 = 1mk )

E – F or cutting across the grains of timber/ wood ( 1x1 = 1mk)

c) Maintenance practice carried out on tool E.

- Tighten loose screw and nuts

- Teeth setting should be done

- Straighten the blade when bent

- Regular cleaning should be done

- - Oil blades before storing them for long

- Broken handles should be replaced or repair

- Regular sharpening of the teeth should be done.

- Proper storage any 1x1 = 1mk

13a) Identification

* French drain ( 1 x1 = 1mk)

b) Other methods used in draining farm land.

- Planting trees

- Pumping

- Cambered bed

- Underground drain pipes

- Open ditches any 4x ½ = 2mks)

c) Reasons for draining farm

- To increase soil aeration

- To increase soil volume

- To raise soil temperature/ warmth

- T o increase microbial activities

- To reduce soil erosion

- To remove toxic substances 4x ½ = 2mks)

- Enhance soil PH

- Improve soil structure

14a) Identification

H – Sandy soil

J – Loam soil

K - Clay soil 3x 1 = 3mks)

b) Soil type with highest porosity

H/Sandy soil 1x1 = 1mk

c) Type of soil suitable for planting paddy rice

K/Clay soil 1x1 = 1mk)

15. Completed table that classifies soil base on the size of soil particles

|  |  |
| --- | --- |
| Particles | Size (diameter) in MM |
| Stone/gravel | Above 2.0mm |
| Coarse sand | Between 0.20mm and 2.00mm |
| Fine sand | Between 0.20mm and 0.20mm |
| Silt | Between 0.002mm and 0.02mm |
| clay | Below 0.002mm |

5x 1 = 5mks)

16a) Identification

Stir – up pump (1x 1 = 1mk)

b) Use of the equipment

Spraying livestock against external parasites 1x1 = 1mk

C) E – Nozzle

F - Lance

G – Trigger (3x 1 = 1mk)

17a) Identification

Drip irrigation (1 x 1 = 1mk)

b) Disadvantages of the methods of irrigation

- Expensive to install

- - Can only use clean water since nozzles can be blocked

- High technological skills required. (2x 1 = 2mks)

c) How is drip irrigation is maintained.

- Repair broken pipes

- Unblock the perforations

- Use phosphoric acid to dissolve salt deposits ( 2x 1 = 2mks)

18 a) Biotic factors influencing agriculture

* Pathogens
* Decomposers
* - Pests
* Pollinators
* Predators
* Nitrogen fixing bacteria
* Parasites 6x 1 = 6mks)

b) Aspects of rainfall

- Rainfall amount

- Rainfall distribution

- Rainfall reliability

- Rainfall intensity 4x 1 = 4mks)

19. Factors that determine the number of times secondary cultivation is done

- Type and size of planting material/type of soil

-Cost involved

- Time available

- Skill of the tractor operator

- Zoography/slope of land

-Soil moisture content/ Soil type

- Land condition/type of implement used in primary cultivation/amount of vegetation on the land. 5x 1 = 5mks)

b) Advantages of minimum tillage

- Control soil erosion

-Reduces cost of cultivation/ save money and time

-Reduces loss of nutrients through oxidation

- Minimizes soil structure disturbance/ maintains soil structure

- Reduces roots disturbance

- Conserves moisture

- Reduces labour requirements. 5 x 1 = 5mks)

20 a) Importance of water treatment

* To destroy pathogens/ to kill the harmful micro- organisms
* To remove chemical impurities/ soften
* To remove smells/ bad odor
* To remove sediments/ to dissolve impurities. 4x 1 = 4mks)

B) Factors determining the choice of the type of irrigation used.

-Type of soil

-Rate of evaporation

-Quantity of water required and available

- Crop type to be irrigated

- Available capital

- Slope of land. 6x 1 = 6mks)