

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
- To 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)