**MWAKICAN JOINT EXAMINATION**

**FORM 1 AGRICULTURE**

**END OF TERM 1 2014**

1. Is the science and art of crop and animal/livestock production.
2. - Tilling of the land.
* Construction of farm structures
* Measuring distances
* Operating machines
* Crop harvesting
* Feeding animals
* Marketing agricultural produce 1x4 mks)
1. - Crop pathology
* Entomolgy
* Agricultural engineering
* Soil Science
* Genetics ( 1x4 mks)
1. - It is a source of raw materials for industries
* It provide market for industrial goods.
* It is a source of capital to establish industries.( 1x2=2 mks)
1. - It is source of food supply
* Help the nation to earn foreign exchange
* Provide employment to citizens
* Provide capital through taxation leading to national development. 1x3 mks)
1. Crop production
* Livestock production
* Agricultural economics
* Agricultural engineering
* Soil science (1 x 5 mks)
1. Level of technology
* Availability of land
* Capital
* Skilled labour (1X4)
1. Require large tracts of land
* Require high capital instrument
* Mechanization is common
* Processing of the product in the farm
* Provide more employment
* Skilled labour
* High level management
* Carried out for commercial purposes. (1X4)
1. - Limited capital
* Small land sizes. 1 x 2)
1. Growing of fruits such as avocado, mangoes and citrus.(1x1mk)
2. - In search of better pastures
* In search of water (1 x 2 mks)
1. - Wind
* Rain
* Light
* Temperature
* Relative humidity (1 x 4 mks)
1. Involves growing of trees and crops and keeping of animals on the piece of land. (1x1mk)
2. - Low production/low yield
* A lot of time wasted in movement
* No inventive to develop land.
* Require large piece of land
* Possible for only animal crops. (1x4 mks)
1. - Shortage of labour in the farm
* Increased cost of labour
* Reduced agricultural production/low food supply and poverty.
* Poor agricultural development due to lack of capital (1X 2 mks)
1. - Level of education and technology
* Economy
* Government policy
* Transport and communication
* Cultural practices and Religious beliefs
* Market forces. ( 1x4 mks)
1. - Amount
* Distribution
* Intensity
* Reliability
* Form (1x4 mks)
1. - Pests
* Parasites
* Decomposers
* Pathogens
* Predators
* Pollinators
* Nitrogen Fixing bacteria (1 x 5)
1. - Farmers gets sustainable income throughout the year crops and livestock have mutual benefit.
* Animals provide labour to work in the crop fields
* Resources such as land and labour are used economically.( 1x4)
1. a) High incidence of disease infection to crops eg CBD.
* Improved quality of crops eg. tea and pyrethrum .

- Slow growth rate of crops due to reduced photosynthesis rate. (1 x 3mks)

 b) Causes lodging of crops

 - Cuases soil erosion

 - Spread of diseases and pests

 - Destroying farm structures

 - Increases evapotranspiration leading to wilting of plants. (1x4 mks)

1. - Long – day
* Short – day
* Day - Neutral (1x 2 mks)

**SECTION B**

1. i) - A – Top soil/zone A/Horizon C
* B – Subsoil/Zone B/Horizon B
* C – Substratum/weathered rocks/Zone C /Horizon C

 II)-More fertile/organic matter accumulation

* Better aerated and moist
* More micro-organisms/soil microbes
* Holds root of plants

Well drained

Contain most plant nutrients 1 x 3 = 3mks

(iii) Parent rock material

 Climate

 Topography

 Time

 Vegetation 1x4 = 4mks

23(a) Drainage of the soil 1x1 = 1mk

(b) Sandy soil

 Loam soil

Clay soil 1 x 3 = 3mks

(c) Influences soil aeration affecting crop growth and microbial activity affect soil drainage.

 Influences the water holding capacity of soil.

 1x3 = 3mks

(d) Soil structure – Physical appearance of the soil according to the way soil particles are arranged, packed or aggregated / arrangement of soil particles or aggregate.

 Soil texture – Relative proportions of the various sizes of mineral particles in a soil sample / coarseness or fineness of soil when felt between the fingers.

24(a) To show the presence of living organisms in the soil.

(b) C – lime water turns milky

 D – Lime water remain clear

(c) C - Carbon dioxide produced during respiration by living organisms present in the soil

 Turns lime water milky.

D - The lime water remains clear because the living organisms in the soil had been

 Killed, therefore no respiration occurred and no carbon dioxide was released.