FORM FOUR EVALUATION TEST
END OF 2ND TERM – 2018
MARKING SCHEME
AGRICULTURE F.4 PP$_1$ EXAM
July/August

1. Methods of farming

    ➢ Mixed farming
    ➢ Shifiting cultivation
    ➢ Organic farming   4 x ½ = 2mks
    ➢ Agroforestry
    ➢ Nomadic pastrolism

    Mark first four points

2. Information contained in a land title deeds.
    ➢ Name of the owner
    ➢ Type of ownership
    ➢ Size of the land
    ➢ Land parcel number
    ➢ Location
    ➢ Type of ownership
    ➢ Conditions e.g seal of issuing officer
    ➢ Date of registration
    ➢ Date of issuing
    ➢ Signature of issuing officer

    First four point 4 x ½ = 2mks

3. a) Factors determining the stage of crop harvesting.
    ➢ Chemical concentration
    ➢ Market demand
    ➢ Purpose/use of the crops
    ➢ Taste and preferences
    ➢ Market price

    First two points 2 x ½ = 1mk

    b) Factors considered when designing a crop rotation programme.

    ➢ Crop root depth
    ➢ Weed control
    ➢ Pest and disease control
    ➢ Soil fertility

➢ Soil structure
➢ Crop nutrient requirement

First four point 4 x ½ = 2mks

4.   a)   Sub – soiling . The process of cultivating the soil for the purpose of breaking the hardpans.   (1 x 1 = 1mk)

      b)   Causes of hardpans

      ➢   Use of heavy machinery on wet soil.
      ➢   Continuous shallow cultivation
      ➢   Continuous use of heavy machinery in land preparation.

      First two points 2 x ½ = 1mk

5.   Uses of phosphorous in the growth and development of crops.

      ➢   Root development.
      ➢   It is essential for flowering, fruits and seed formation and also hastens the ripening of fruits.
      ➢   It plays important role in metabolic processes.
      ➢   It is part of nucleoproteins which are required during cell division.
      ➢   It strengthens plants stems, thus preventing lodging.

      First two points   (4 x ½ = 2mks)

6.   Aspect of rainfall

      ➢   Rainfall reliability
      ➢   Amount of rainfall
      ➢   Rainfall distribution
      ➢   Rainfall intensity

      (4 x ½ = 2mks)

7.   Sources of organic matter in soil.
      ➢   Organic mulch
      ➢   Crop residue/animal remains
      ➢   Green manure
      ➢   Farm yard manure
      ➢   Compost manure

                        4 x ½ = 2mks

8.   Reasons for seeds selection

- To obtain seeds which produce high quality yields.
- To obtain seeds which high germination percentage.
- To reduce chances of disease and pest attack.
- To identify seeds that are suitable to a given ecological area.

(4 x ½ = 2mks)

9.   a)   Aspect of a good farm records.

- Should be neat,
- Should be complete and concise
- Should be up to date.
- Should be showing actual amount.

2 x ½ = 1mk

    b)   Situation in farming where opportunity cost is equal to zero.

- Where the resources are unlimited/free
- Where there are no alternatives.

2 x ½ = 1mk

10.   Advantages of timely planting.

- Crop establishes earlier than weeds, hence smothering them.
- The produce are marketed when price is high.
- Crops benefits from nitrogen flush which is available at the beginning of the rain.
- Crops escape serious pest and disease attack.
- Crops makes maximum use of rainfall and suitable soil temperature.

4 x ½ = 2mks

11.   Types of leguminous fodder crops.
- Lucerne
- Calliandra
- Kenya white clover
- Desmodium species

3 x ½ = 1 ½ mks

12.   Maintenance of trees in a agro forestry.

> ➢ Pruning
> ➢ Training
> ➢ Weeding
> ➢ Shading
> ➢ Mulching
> ➢ Watering
> ➢ Pest and disease control
> ➢ Protection when young

3 x ½ = 1 ½ mks

13. Problems that farmers faces when marketing their produce.
> ➢ Price fluctuation
> ➢ Perishability
> ➢ Poor storage facilities
> ➢ Competition with substitute products
> ➢ Lack of market information
> ➢ Poor marketing organization

4 x ½ = 2mks
First four points.

14. Partial budget – is prepared when minor changes are to be made in an enterprise.

Complete budget – is prepared when major changes are to be made in an enterprise.

2 x 1 = 2mks

15. Physical agent of weathering

> ➢ Wind
> ➢ Moving water rej water only
> ➢ Moving ice rej ice only
> ➢ Temperature

4 x ½ = 2mks

SECTION B: **(20MKS)**

16.   a)   The ratio is N:P:K 20: 30: 0   (1mk)

              100kg of fertilizer contains 30kg of phosphorous   (1mk)

              $\dfrac{50 \times 100}{30}$ = 166.6kg   (1mk)

                =167Kg of fertilizer   (1mk)

            4 x 1 = 4mks

  b)   30%   1 x 1 = 1mk

17.   a)   A   -   scion   2 x 1 = 2mks

            B   -   Root stock

  b)   - To ensure efficient exchange of water and air.
            - To make tight contact between the scion and stock so as to facilities
              taking or acceptance.

                1 x 1 = 1mk

  c)   i)   Tongue/whip grafting   2 x 1 = 2mks

            ii)   Trench layering

18.   a)   G   -   oxalis   2 x 1 = 2mks

            H   -   Mexican marigold

  b)   i)   It taints milk if consumed by lactating cow.

            ii)   It completes with crops for water and nutrients thus reducing
                 their yield.

            1 x 1 = 1mk

  c)   It has underground bulbs/tubers which make it survive in adverse
            conditions.

            1 x 1 = 1mks

d) 2, 4 – D

MCP   1 x 1 = 1mk

19.   a)   Soil capillarity   1 x 1 = 1mk

b)   G   -   sandy soil
       H   -   loamy soil   3 x 1 = 3mks
       J   -   clay soil

c)   Clay soil has the highest capillarity, followed by loamy soil, sandy soil
       has the lowest capillarity.

       1 x 1 = 1mk

SECTION C: (40MKS)

20.   a)   Types of soil erosion by water

➢   Splash/raindrop erosion
➢   Sheet erosion
➢   Rill erosion
➢   Gully erosion

    4 x 1 = 4mks

b)   Factors influencing soil erosion

i)   The amount and intensity of rainfall.

       Area which receives heavy rainfall, the raindrops hit the ground with
       such force that the soil is splashed up with the water.

ii)   The slope of the land (Topography)

       The speed of the water as it flows is determined by the slope of the land.
       If the steepness is increased four times, the speed of the water is double.
       The greater the speed of the water the greater the erosion force.

iii)   The type of the soil

       The ability of the water to infiltrate into the soil depends on the soil type.
       Sandy soil which have coarse texture become saturated with water
       quickly and are easy eroded. Clay soil are more resistant to water
       erosion.

iv)   Soil depth

Shallow soil becomes saturated with water very quickly and are easily eroded.

v) Vegetation cover

Forest protect the soil against erosion because the trees act as a barriers Preventing direct exposure to the soil agents for erosion.

vi) Overstocking

When an area is overstocked by cattle's, sheep, the grass cover is destroyed due to overgrazing leaving the soil surface bare. Areas where the grass is destroyed are covered with thorny shrubs and bare grounds between the shrubs is eroded by water during rainy season.

vii) Deforestation

When the forest is cleared, the soil become exposed both to high temperature and heavy rainfall. Organic matter in the soil will be washed away by the surface run – off into streams and rivers.

viii) Planting annual crops on steep slopes.

This leads to frequent cultivation hence exposure of soil to erosion.

ix) Burning of vegetation before cultivation

The land is left exposed to the erosive forces of rain and wind.

x) Clean weeding

This leaves the soil more or less unprotected against water erosion.

xi) Ploughing up and down the slope

This make water to flow down very fast hence carrying of soil down the slope.

1 mark for stating. 1 mark for explaining
First eight points well explained

8 x 2 = 16

21. a)   Balance sheet for Mr. Kamau as at 30th June, 2008

Assets		Liabilities	
Fixed Assets	**Kshs.**	**Long term liabilities Kshs.**	
Buildings	50,000		
Disc ploughs	16,000	Loan	
Working tools	12,000	50,000	
Land	80,000		
Cattle	40,000		
Current Assets			
		Current liabilities	
Cash in hand	20,000	Bank overdraft	24,000
Cash in Bank	66,000	Creditors	20,000
Debtors	16,000		
		Total liabilities	94,000
Total Assets	300,000	Net worth/owners	206,000
		Total	300,000

Award of marks
➢   Title of the account   (1mks)
➢   Correct label/column assets   (1mks)
➢   Correct label/column liabilities   (1mks)
➢   Correct entries of liabilities   (1mks)
➢   Correct entries of Assets   (1mk)
➢   Correct net worth/balance/owners   (1mk)

ii)   Solvent   (1 x 1 = 1mk)

iii)   Benefits of balance sheet to Mr. Kamau

➢   Whether the farm business is solvent or insolvent.
➢   For fair taxation
➢   For obtaining credits or loans
➢   Land value in case of sales
➢   Value of assets and liabilities

Mark first three points

3 x 1 = 3mks

b)   Risks and uncertainties in Farming

➢   Fluctuation of commodity prices – the farmer may not predict the future market prices.
➢   Physical yield uncertainty – the farmer does not know how much to expect.
➢   Ownership uncertainty – the farmers my lose parts or whole of the produce through theft, change in government policy, fire, deaths, association with other business or institutions such as banks, business partners and clan.
➢   Outbreak of pest and diseases – this will affect the expected out come.
➢   Sickness and injury uncertainty – this is where the farmer or a member of a family or employee is affected and loses the ability to work due to sickness or injury.
➢   New production technique and uncertainty – The famer may not be certain as to whether technology is as effective as the previous one.
➢   Obsolescence – a farmer may invest in machinery which may become outdated (obsolete) within a short time.
➢   Natural catastrophes – things like floods, drought, earthquakes, storms and strong winds may destroy the crop or kill the animals.

1 mark for stating   1 mark for explaining

5 x 2 = 10

22.   Cultural methods of weeds control.

➢   Correct spacing to deny weeds space for active growth but allowing faster crop establishment.
➢   Mulching it smothers weeds.
➢   Flooding used to control non – aquatic weeds.
➢   Application of manure and fertilizers encourage faster plant growth.
➢   Crop rotation – helps to break the life cycle of certain weeds association with certain crops.
➢   Clean seedbed – proper land preparation during the dry period.
➢   Cover cropping – smoothers weeds.

1 mark for stating 1 mark for explaining
5 x 2 = 10mks

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