**SUNRISE EVALUATION EXAMS FORM 4 - 2021**

**NAME……………………………………………………ADM NO.………………. CLASS………**

**DATE: …………………………….. SIGN: …………………….………**

**443/1 AGRICULTURE**

 **PAPER 1**

 **(THEORY)**

**SEPTEMBER 2021**

**DURATION:: 2HRS**

***Kenya Certificate of Secondary Education (K.C.S.E)***

**Instructions to candidates**

*a) Write your name and index in the spaces provided above*

*b) Sign and write the date of examination in the spaces provided above*

*c) This paper consists of* ***three*** *sections* ***A, B*** *and* ***C****.*

*d) Answer* ***all*** *the questions in sections* ***A*** *and* ***B****.*

*e) Answer any* ***two*** *questions in section* ***C***

*f)* ***All*** *answers should be written in the spaces provided in the question paper.*

**For Examiner’s Use Only**

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| --- | --- | --- | --- |
|  **Section** | **Question** | **Maximum Score** | **Candidates Score** |
| **A** | **1 – 20** | **30** |  |
| **B** | **21 - 26** | **40** |  |
|  **C** |  **27-29** | **20** |  |
| **Total Score** | **90** |  |

1. State t**wo** methods which can be used to detect mineral deficiency in crops. (lmk)

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1. State **two** conditions under which shifting cultivation is favourable. (lmk)

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1. State t**wo** conditions under which seeds are seeded at a high seed rate. (2mks)

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1. State **three** ways in which trees improve soil fertility. (1 1/2 mks)

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1. Give **three** causes of hardpans in cultivation. (1 1/2 mks)

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1. Under what **two** conditions does opportunity cost not exist? (lmk)

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1. Give **two** roles of additives in silage making. (lmk)

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1. Outline **four** advantages of mixed farming. (2mks)

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1. Give **three** reasons why bulbils make good planting materials than suckers. (2mks)

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1. Give **three** reasons why agriculture is defined as a science. (1 1/2 mks)

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1. Give **four** characteristics of large scale farming system. (2mks)

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1. State **four** farming practices which help to improve soil structure. (2mks)

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1. Give **four** effects of top dressing on a pasture. (2mks)

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1. What are the two reasons for innoculating legume seeds before planting . (1mk)

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1. State **two** advantages of carrying out pruning in banana production. (1mk)

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1. In maize hybrid 614 what do the following figures stand for? (1mk)

 (i) 6……………………………………………………………………………………

1. 4…………………………………………………………………………………….
2. Give **two** ways in which pastures are classified. (1mk)

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1. Name **four** practices carried out to improve and maintain permanent pasture. (2mks)

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1. Give **four** advantages of tissue culture. (2mks)

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1. Give **three** stages of controlling devils horsewhip by mechanical means. (1½ marks)

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**SECTION B**

1. The diagram below shows a set up of apparatus for finding the percentage of humus contents in a soil by ignition.



 (a) Label the apparatus. (2 marks)

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 II …………………………………………………………………………………………...

 III …………………………………………………………………………………………..

 IV …………………………………………………………………………………………...

 (b) Outline the steps followed in carrying out the illustrated experiment. (3 marks)

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G

H

 (i) Identify the weeds above. (2 marks)

 **G** ……………………………………………………………………………

 **H** ……………………………………………………………………………

1. State the economic importance of the weed shown in diagram **G**. (2 marks)

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 (iii) Why is it difficult to control weed in diagram **G**? (1 mark)

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1. Study the pest below and answer the questions below.
2. Identify the pest (1 mark)

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1. State two methods of controlling the pest. (2 marks)

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1. Name the crops attacked by the pest. (2 marks)

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1. The diagram below illustrates a field management practices in tomatoes
2. Identify the practice (1 mark)

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1. State three reasons for carrying out the practice. (3 marks)

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1. Give another practice that could be carried out to give the same results. (1 mark)

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1. Study the diagram below then answer the questions that follow:

 

1. Identify the method of drainage above. (1mk)

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1. State other **three** methods used to drain swampy areas. (3mks)

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1. Give **four** importance of drainage. (4mks)

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1. Study the processes of chemical water treatment below and answer the questions that follow:


(a) Identify the parts labeled: (2mks)

A ……………………………………………………………………………………….
B ……………………………………………………………………………………….

C ……………………………………………………………………………………….
D ………………………………………………………………………………………

(b) State **two** chemical substances added at part labeled B and give their functions. (2mks)

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(c) State **two** factors which influence the quantity of the chemical used in part labeled D**.**

(2mks)

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(d) State **three** uses of water in crop production. (3 mks)

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 (e) State **three** types of production functions in agriculture. (3mks)

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 **SECTION C (20MKS)**

1. (a) Describe the cultural methods of weed control in crop production. (l0mks)

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 (b) Describe the harmful effects of pests on crops (10mks)

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1. (a) Discuss the human factors which influence agriculture. (10 marks)

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 (b) Explain **five** factors to consider when choosing the planting time. (10 marks)

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1. Describe the production of carrots under the following sub headings

 a) Seedbed preparation (3 marks)

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b) Harvesting (4 marks)

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c) Explain five cultural methods of weed control in beans production. (10 marks)

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d) Outline three roles of sulphur in crop production. (3 marks)

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