**NAME ……………………………………..……………….. DATE …………………………………**

**INDEX NO. …………….……….……..…..… CANDIDATE’S SIGNATURE …………..…..………..**

443/1

AGRICULTURE

PAPER 1 (THEORY)

OCTOBER / NOVEMBER 2013

TIME: 2 HOURS

**KILUNGU DISTRICT 2013**

**FORM FOUR ENTRANCE EXAMINATION**

*Kenya Certificate of Secondary Education*

443/1

AGRICULTURE

PAPER 1 (THEORY)

TIME: 2 HOURS

**INSTRUCTIONS TO CANDIDATES**

1. Write your name and index number in the spaces provided above.
2. This paper consists of **THREE** sections: A , B and C
3. Answer **ALL** the questions in sections A and B and any **TWO** questions in section C
4. ALL answers **MUST** be written in the spaces provided.
5. Do not remove any pages from this booklet.
6. This paper consists of 8 printed pages.

 Candidates should check to ensure that all pages are printed as indicated and no questions are missing

**FOR EXAMINER’S USE ONLY**

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| --- | --- | --- | --- |
|  | **Questions** | **Maximum score** | **Candidate’s score** |
| A | **01-18** | **30 marks** |  |
| B | **19-21** | **20 marks** |  |
| C |  | **40 marks** |  |
|  | **Total score** |  |

Kilungu District Form Four Entrance Examination

443/1

Agriculture

Paper 1

**SECTION A (30 MARKS)**

**Answer all the questions in this section in the space provided.**

1. Give two factors that influence planting depth of crops (1mark)

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1. Give two benefits of correct plant population in annual crops (1mark)

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1. State two ways through which one would acquire land (1mark)

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1. List four disadvantages of overhead irrigation (2marks)

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1. (a) What is solifluction? (1mark)

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(b) State two factors affecting solifluction (1mark)

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1. State three ways by which biological agents can enhance the process of soil formation (1½ marks)

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1. State four advantages of adding organic manure to sandy soil (2marks)

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1. State 2 forms in which nitrogen is absorbed by crops (1mark)

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1. State 4 ways of harvesting water in the farm. (2marks)

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1. State 2 roles of good soil aeration in crop growth (1mark)

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1. Outline three reasons for root pruning in agroforestry seedlings (1½ marks)

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1. State two reasons why settlement schemes were established in Kenya (1mark)

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1. State two factors that must be considered when constructing cut off drains (1mark)

………………………………………………………………………………………………………………………………………………………………………………………………………………………………

1. State two effects of low temperature on crop production (1mark)

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1. (a) What is land fragmentation in farming (1mark)

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(b) State two causes of land fragmentation in Kenya since independence (1mark)

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1. List four benefits that a farmer may derive agro-forestry trees (2marks)

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1. Give 4 factors that determine the number of times secondary cultivation is done on a seed bed. (2marks)

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1. Give the meaning of the following field practices carried out on a nursery bed.
2. Pricking out (1mark)

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1. Hardening off (1mark)

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1. State four disadvantages of using agro-chemicals in crop production (2marks)

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1. Give two reasons as to why agriculture is said to be an art (1mark)

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**SECTION B. (20 MARKS)**

 **Answer all the questions in this section in the space provided.**

1. The diagram below is a presentation of a cross section through a compost heap. Study it and answer questions that follow

 6

 5

 4

 3

 2

 1

1. (i) Name the part labeled 1 – 6 (3marks)

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(ii)Give the importance of 5, 4 and 3 (3marks)

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1. Why is it advisable that;
2. A long sharp pointed stick is driven into the heap at an angle (1mark)

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1. A compost pits are preferably done in drier areas (1mark)

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1. The diagram below shows an experiment set up using different soil types A, B and C. the observation is made after 24 hours.

 water

Water

 Soil Soil

 Cotton

 wool Cotton wool

 Water Water

 A B C

1. State what the experiment was designed to study (1mark)

………………………………………………………………………………………………………………………………………………………………………………………………………………………………

1. Name the soil type labeled A, B and C (3marks)

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1. State three ways in which soil structure influences crop production (3marks)

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1. The illustration below shows two broad varieties of tomato

 J K

1. Identify the two broad varieties (2marks)

 J –

 ………………………………………………………………………

 K-

 ………………………………………………………………………..

1. State two characteristics of K which makes them popular amongst farmers (2marks)

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1. Give one major reason as to why a farmer may opt to produce variety J. (1mark)

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1. Below are diagrams of irish potato tubes after being subjected to some conditions in preparation for planting

 Before subjecting to the conditions After subjecting to the conditions

1. Which process of potato treatment is illustrated above? (1mark)

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1. State two conditions necessary for the above process (1mark)

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1. Give two reasons for carrying out the above practice (1mark)

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**SECTION C (40 MARKS)**

**Answer any Two questions in this section in the spaces provided.**

1. (a) Discus five importance of crop rotation (10marks)
2. Explain five factors determining the stage and time of harvesting crops (10marks)
3. (a) Discuss five qualities of good silage (5marks)

 (b) Discus the advantages and disadvantages of overhead irrigation (8marks)

 (c) Outline the safety measures in the use of chemicals to minimize environmental pollution (7marks)

1. (a) Explain 10 cultural measures used in the control of weeds in a field of a named cereal crop

 (10marks)

 (b) Explain six physical or structural methods of soil erosion control (6marks)

 (c) State four characteristics of a fertile soil (4marks)

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