**MOKASA JOINT EXAMINATION**

**Kenya Certificate of Secondary Education**

**443/1**

**AGRICULTURE**

(Theory)

**August/September 2022 – 2 hours**

**Name …………………………………………………Adm. Number ………… Class……**

**Instructions to candidates**

**Answer all the questions in sections A and B and Any 2 questions in section C.**

**For examiner’s use only**

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| --- | --- | --- | --- |
| **SECTION** | **Question** | **Maximum Score** | **Candidate’ Score** |
| **A** | **1-18** | **30** |  |
| **B** | **19-22** | **20** |  |
| **C** |  | **20** |  |
|  | **20** |  |
| **TOTAL SCORE** | | **90** |  |

**SECTION A (30 Marks)**

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

1. Outline four ways in which biotic factors affect crop production (2marks)

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1. Give two importance of a shed in nursery bed of pest control. (1mark)

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1. State four benefits of using vegetative propagation in orange production.(2marks)

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1. List four features of fertile soil (2marks)

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1. State four reasons why a farmer prepares a seedbed early. (2marks)

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1. Give four reasons for keeping breeding records. (2marks)

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1. Outline four importance of a good soil structure to crop production. (2marks)

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1. Give two importance of earthing up crops (1mark)

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1. Give four ways of breaking seed dormancy. (2marks)

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1. State four disadvantages of using plastic pipes to convey water. (2marks)

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1. Give three forms in which water is available in the soil. (11/2 mark)

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1. State three roles of organic matter in sandy soils. (1 ½ mark)

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1. What is the name given to the point where supply and demand curves intersect? ( ½ mark)

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1. Give four advantages of using herbicides to control weeds. (2marks)

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1. a) Give two functions of sulphur in crops. (1mark)

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(b) State two characteristics of phosphatic fertilizers on crop growth. (1 mark)

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1. State three advantages of drip irrigation. (1 ½ mark)

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1. (a) Give two advantages of planting cereal crops in rows instead of broadcasting.

………………………………………………………………………………….…(1mark)………………………………………………………………………………………………………………………………………………………………………………………………

(b) State two reasons for planting crops at correct spacing. ( 1 mark)

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1. Give four methods of classifying herbicides. (2marks)

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**SECTION B (20MKS)**

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

1. Study the illustrations of a crop rotation programme below.

2nd year plot B

Peas

1st year plot A

Irish potatoes

4th year plot Rhode grass

3rd year plot

C

Maize

1. Identify the crop rotation programme illustrated above. (1mark)

…………………………………………………………………………………………

1. Explain two reasons why it is appropriate to plant peas in year 2. (1mark)

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1. Name one weed species that can be controlled using crop rotation program illustrated above. (1mark)

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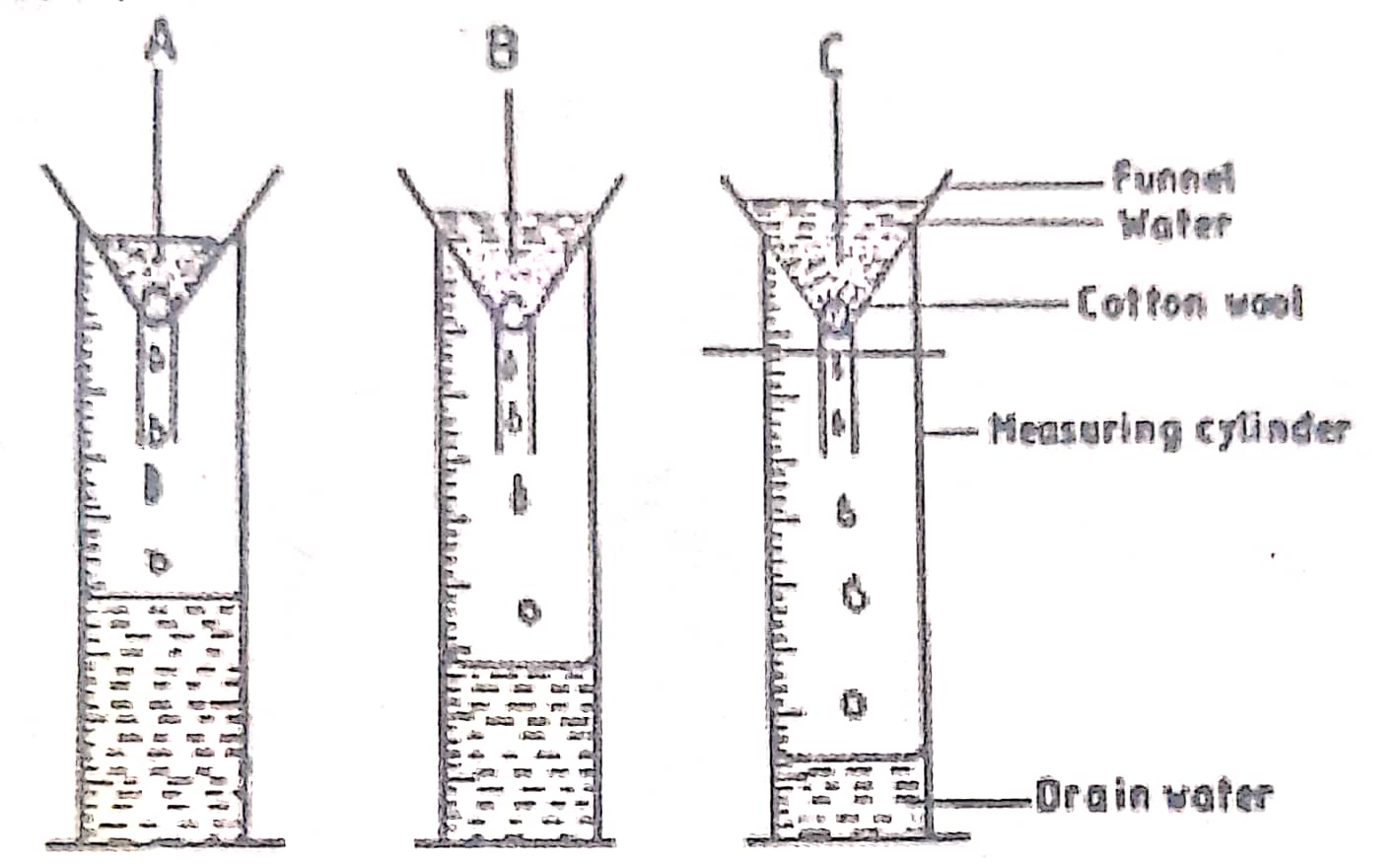
1. Identify one disease in Irish potatoes that can be controlled by the above rotation program. (1mark)

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1. Give two reasons why grass ley should come last in the rotation program ………………………………………………………………………………(**2 marks**)

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1. The diagram below illustrates an experiment on soil. Study it carefully and answer the questions that follow.



1. State the aim of the experiment.

(1mark)

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1. If the volume of water illustrated in the measuring cylinders was observed after one hour, identify the soil samples labelled **A** and **B**.

(2marks)

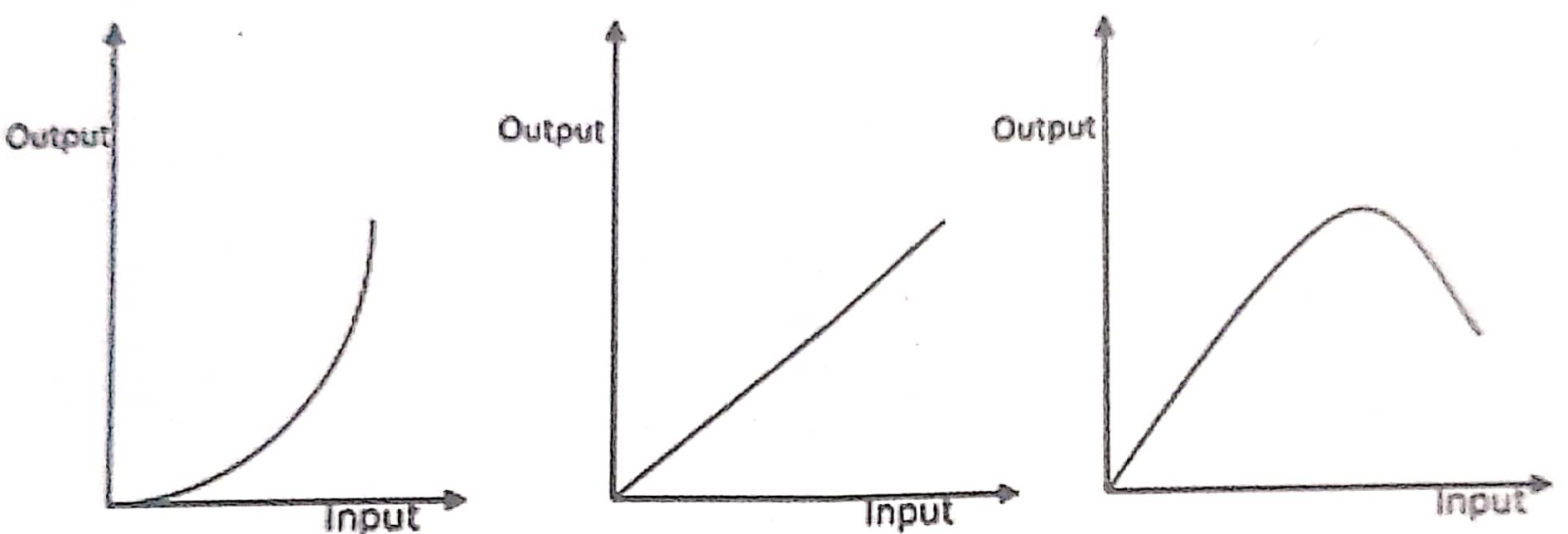
A………………………………………………………………………………………

B………………………………………………………………………………………

1. State **two** ways in which the soil structure of the soil sample labelled **C** above can be improved. (2marks)

……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………….

1. The following illustration show different production curves in agricultural economics. Study them and answer the questions that follow.



F

E

D

1. Identify the production curves labelled **D** and **E**.

(2marks)

**D**………………………………………………………………………………………

**E**………………………………………………………………………………………

1. What does the law derived from the production function labelled **F** state?

(1mark)

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

1. i. Which **one** of the three production curves is rare in agriculture?

(1mark)

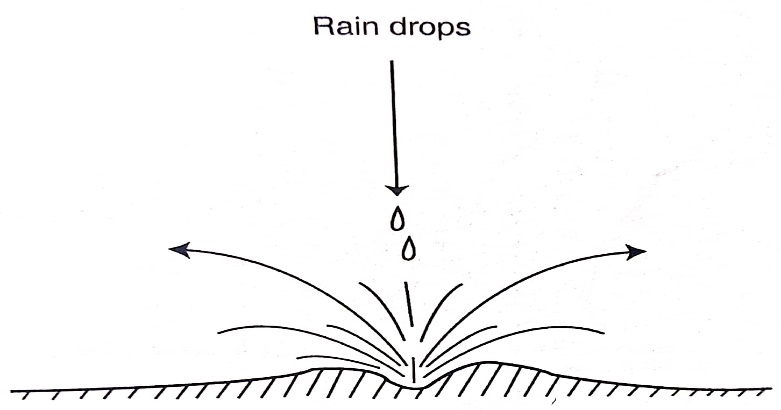
…………………………………………………………………………………………………………………………………………………………………………………….

ii. Give a reason for your answer in (c) (i) above.

(1mark)

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

1. The diagram below illustrates a type of soil erosion.



1. Identify the type of soil erosions. (1mark)

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1. How does the type of erosion shown above occur? (2marks)

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1. How does cover cropping help to control the type of erosion shown above.

(2mks)

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**SECTION C ( 40 marks)**

***Answer any two questions in this section in the spaces provided after the last questions***

1. (a) Explain the marketing functions of oranges on the farm. (10 marks)

(b) The following is a farm record of Mr. Juma he had kept as 30th June 2022. Study it and carefully answer the questions that follow.

Cash in bank 6,000/=

Cash in hand 4,000/=

Debtors 40,000/=

Creditors 20,000/=

Havested potatoes 50,000/=

Loan 500,000/=

Bank overdraft 100,000/=

Land 1,600,000/=

Milking machine 100,000/=

1. Prepare a balance sheet from the above information for Mr. Juma’s farm. ( 8 marks)
2. State two benefits of balance sheet to Mrs Sanda:

24(a) Describe the production of onions under the following sub-headings.

1. Seedbed preparation (3marks)
2. Field management (6marks)
3. Harvesting (3marks)
4. Outline eight farming activities which may encourage soil erosion. (8marks)

25. (a) State and explain causes of land fragmentation in Kenya . (5mark)

(b) Explain seven ways in which government policy improves agriculture production. (7marks)

(c) Outline eight factors that determine the number of secondary tillage operations when preparing a seed bed. (8marks) ………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

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