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

**DATE………………SIGN.............………**

**443/1**

**PAPER 1**

**TIME: 2 HOURS**

**FORM FOUR END OF TERM TWO 2020**

**AGRICULTURE**

**PAPER ONE**

**TIME: 2 HOURS**

**INSTRUCTIONS TO CANDIADATES**

1. Write your name, admission number and class
2. This paper contains**three** sections
3. Answer all question in section **A** and **B**
4. In section **C** answer any two questions
5. Candidates should check the question paper to ascertain that all pages are printed as indicated and that no questions are missing
6. This paper has 15 printed page
7. Candidates must answer all the questions in English

**For examiner’s use only**

|  |  |  |  |
| --- | --- | --- | --- |
| **Section**  | **Questions**  | **Maximum score**  | **Candidate score** |
| **A** | **1 -18** | **30** |  |
| **B** | **19 -22** | **20** |  |
| **C** |  | **20** |  |
|  |  | **20** |  |
|  **Total score** | **90** |  |

**SECTION A(30MARKS)**

Answer **ALL** questions in this section

1) Name a chemical used to achieve the following during water treatment.

(a)Coagulation of solid particles (½mark)

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

(b)Softening of water (½mark)

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

 (c)Killing pathogens (½mark)

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

2) State **two** causes of forking in carrots (1mark)

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

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

3) Name **four** books of account kept by a farmer (2 mark)

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

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

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

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

4) Give the element whose deficiency in plants is characterized by the following

(a) Interveinal chlorosis of the leaves ......................................................................................(½ mark)

(b Blossom end rot in tomatoes ................................................................................................(1/2mark)

(c) Scorched edges of a leaf ....................................................................................................... (½ mark)

5) Give **two** roles of agriculture in industrial growth. (1 mark)

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

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

6) Difference between olericulture and pomoculture( 1 mark)

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

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

7 a) Give **two** disadvantages of hydram pumps(1 mark)

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

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

(b) State **two** methods of harvesting Maize (1 mark)

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

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

8) a) What is Agro forestry. (1mark)

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

b) State **four** ways in which Agro forestry is important. (2marks)

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

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

9) Give **four** farming practices that may help in achieving minimum tillage. (2 marks)

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

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

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

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

10) Define the term “Economic Injury Level” of a crop. (1 mark)

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

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

11) State **two** conditions when opportunity costs are zero (1 mark)

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

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

12) State **four** factors that influence solifluction(2 marks)

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

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

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

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

13) Give **four** conditions that necessitate clearing of land. (2 marks)

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

 14) Give **four** reasons for keeping health records (2 marks)

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

15) Name any **two** diseases that affect bean production in the field. (1 mark)

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

16) State **four** benefits of crop rotation (2 marks)

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

17) State **four**management practices in a vegetable nursery (2 marks)

...............................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................

18) Give **four** methods of land reform practiced in Kenya (2mks)

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

**SECTION B ( 20 MARKS)**

**Answer ALL the questions in this section in the spaces provided.**

19. Study the methods of crop propagation illustrated below and answer the questions that follow



3

1

2

Banana plantlet

Root stock

Glass container

scion

Culture medium

roots

Developing roots

1. Identify the methods of crop propagation illustrated above.

1………………………………………………………………………. (½ mark)

2 ……………………………………………………………………… (½ mark)

3……………………………………………………………………… (.½ mark)

b) Give **one** condition under which method (1) above is carried out. (½ mark)

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

c) State **two** disadvantages of using stem cuttings for planting. (2marks)

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

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

20.(a) Form two student put some soil sample in a measuring cylinder, added some water and sodium carbonate and then covered the cylinder with the hand and shook the cylinder for about two minutes. He left the cylinder on the bench for one hour. The result was as shown below.



a

b

c

d

d

(i). Name the layers marked a,b,cand d. (4x ½ =2 mark)

a) ……………………………………………………………………………………….

b) ……………………………………………………………………………………….

c)……………………………………………………………………………………….

d)……………………………………….........................................................................

(ii) What was the function of sodium carbonate in this experiment? (Imark)

.…………………………………………………………………………………………

 (iii) What was the aim of this experiment? (lmark)

. ……………………………………………………………………………………….

21.The diagrams below illustrate both field and storage pests



a) Identify the pests in the illustration. (4marks)

M1………………………………

M2……………………………….

M3: ………………………………

 M4: ……………………………….

b) State**two** ways by which pest labelled M2 causes loss in cereal crops. (1marks)

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

c) State **two** methods which are used to control the pest labeled M2. (2marks)

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

22.Study the diagram on silage making shown below and answer the questions that follow.



Ground level

Polythene sheet

Soil layer

Silage material

Drainage

 a) Identify the silage preparation method shown above. (1mark)

 ………………………………………………………………………………………………

b) Give **two**precautions taken when ensiling to ensure high quality silage. (2marks)

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

………………………………………………………………………………………….……

c) State **two** advantages of this method of forage conservation over other methods. (2marks)

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

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

**SECTION C ( 40 marks)**

Answer **TWO** questions from this section in the spaces provided

23.a) State and explain **five** agricultural services offered to farmers. (10marks)

b) Give ways in which labour efficiency can be increased in the farm (5marks)

c) State **five** the functions of co-operatives. (5marks)

24.a) Give one reason in each case why it is difficult to control the following weeds.

* 1. Oxalis
	2. Nut grass
	3. Couch grass (3marks)

b) State **two** main factors which contributes to competitive ability of weeds. (2marks)

c) State **five** safety measures that a farmer must consider to prevent danger to other

people and environment when using herbicides. (5marks)

d) Describe any **five** cultural methods of controlling weeds. (10marks)

25. a) The table gives information on the supply of potatoes in a local market.

|  |  |  |
| --- | --- | --- |
| Price /bag in Kshs. 1000 | Quantity Demanded (in bags) | Quantity supplied (in bags) |
| 1 | 20 | 2 |
| 2 | 15 | 8 |
| 3 | 12 | 12 |
| 4 | 10 | 16 |
| 5 | 9 | 19 |

1. using a suitable scale and on the same axis, draw and label supply and demand curves using the data given. (8marks)
2. From the curves drawn, what is the price per bag when 15 bags of potatoes were supplied? (1mark)
3. How many bags of potatoes were supplied at Equilibrium price. (1mark)
4. Outline the harvesting of coffee under following subheadings
	1. Stage of harvesting (2marks)
	2. Procedure of harvesting (5marks)
	3. Precautions when harvesting (3marks)

**………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………**

**……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………..**

**……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………..………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………**

**……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………..**

**………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………….……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………..**

**……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………..**

**………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………….……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………..**