**NAME:…………………………………………………………… ADM. NO…………………………..…..…..**

**SCHOOL:……………………………………………………SIGNATURE……………………………… DATE…………….……………………………….**

**443**

**AGRICULTURE**

 **(Theory)**

**TIME: 2 HOURS**

**SET 4**

**FORM TWO**

**INSTRUCTIONS TO CANDIDATES**

* Write your name and Adm. number in the spaces provided.
* Answer ALL the questions in the spaces provided,

**FOR EXAMINERS USE ONLY**

|  |  |  |
| --- | --- | --- |
| Question | Maximum score | Candidates score |
| 1-29 | 100 |  |

***This paper consists of 10 printed pages. Candidates should check the question paper to ensure that all the pages are printed as indicated and no questions are missing.***

**1.** What are essential nutrients ? **(1 mark)**

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

**2.** Name **two** examples of liming elements **(1mark)**

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

**3.** State **three** roles of Nitrogen in vegetable production **(3 marks)**

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

**4.** A farmer was advised to apply 40kg of P205 per hectare of maize at planting time. The phosphatic fertilizer available was single superphosphate containing 20 % P2O5.

 i) Calculate the amount of Single superphosphate fertilizer the farmer would apply in two hactares **(2 marks)**

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

**5.** State  **two** ways in which a farmer can raise the PH of the soil. **(2 marks)**

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

**6.** State **two** things that would happen to the element nitrogen when ammonium sulphate fertilizer is applied to the field of maize. **(2 marks)**

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

**7. a)** Give **three** benefits of vegetative propagation in oranges **(3 marks)**

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 **b)** Differentiate the terms bulb and bulbils  **(2 marks)**

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

 **c)** State **one** environmental condition necessary for the successful chitting in Irish potatoes **(1 mark)**

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

**8.** Give **four** factors that determine the depth of planting in crops **(2marks)**

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

**9.** Give **three** benefits of crop rotation **(4 marks)**

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

**10.** State **two** disadvantages of Monocropping **(2 marks)**

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

**11.** Give **four** benefits of using organic mulch for mulching **(2 marks)**

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

**12.** State **four** reasons for pruning fruit coffee **(4 marks)**

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

**13.** State **two** practices which help to achieve optimum plant population  **(2 marks)**

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

**14. a)** What is earthing up in crop production**? (1 mark)**

 ……………………………………………………………………………………………………………………………………………………………………………………………………………………………………  **b)** Give a reason for earthing up in each of the following crops **(4 marks)**

 **i)** Irish potatoes………………………………………………………

 **ii)** Groundnuts……………………………………………………………

 **iii)** Tobacco………………………………………………………………

 iv) Maize………………………………………………………………….

**15. a)** State **two** factors that determine the method of harvesting to be used by a farmer **(1 mark)**

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

 …………………………………………………………………………………………………………………………………………………………………………………………………………………………………… **b)** The stem cuttings should be obtained from the middle part of the shoot. Give a reason why the top and bottom parts are not suitable for stem cutting. **(2 marks)**

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

**16.** The diagrams labeled A1, A2, A3, and B below illustrate materials and methods of vegetative propagation. Study them and answer the questions that follow.



 **(a)** Name the parts labeled A1, and A2 **(1 mark)**

 A1……………………………………………………………………

 A2…………………………………………………………………..

 **(b)** Name the methods of propagation illustrated in diagrams A3 and B **(2 marks)**

 A3……………………………………………………………………….

 B…………………………………………………

**17. a)** Name **two** notifiable diseases in cattle. **(1 mark)**

 …………………………………………………………………………………………………………………………………………………………………………………………………………………………………… **b)** Name **two** vector borne diseases in livestock **(1 mark).** ……………………………………………………………………………………………………………………………………………………………………………………………………………………………………

**18.** Name **one**  intermediate host for each of the following livestock parasites **(1 mark)**

 **(a)** Liver fluke (Fasciola spp)

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

 **(b)** Taenia solium

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

**19.** State **two** ways by which proper feeding contribute to disease control in livestock. **(2 marks)**

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

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

**20.** Give **FOUR** causes of blossom end rot in tomatoes **(4 marks)**

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**21.** The diagrams are illustrations of a livestock parasite. Study and answer the question that follow.

 M N



 **a)** Identify the parasites labeled as M and N above.  **(1 mark)**

  **b)** State **two** harmful effects of M parasite  **(2 marks)**

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

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

 **c)** Name a class chemical used to control the parasite M  **(1 mark)**

 ………………………………………………………………………………………………………………… **d)** Name a disease transmitted by the parasite N;  **(1 mark)**

 To Man………………………………………………..

 To Livestock………………………………………..

**22.** The illustration below shows a life cycle of an internal parasite. Study it anser the questions that follow.



 **a) i)** Identify the parasite above. 1 mark

 ……………………………………………………………

 **ii)** How is the parasite passed from livestock to man. **(1 mark)**

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

1. Give **two** forms in which the parasite is found in livestock. **(1 mark)**

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

**23.** Give **four** reasons why water is important to animals **( 4 marks)**

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**24.** State **four** sources of carbohydrates for livestock  **(4 marks)**

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

**25. a)** Name the following Nutrients **; (2 marks)**

  **i)** A vitamin whose deficiency leads to redarded growth ,poor eye sight, and reduced resistance to

diseases………………………………………………….

  **ii)** A vitamin which is found in whole grains and can be synthesized by micro-organisms in the

rumen………………………………………………………………………………….

 **iii)** Mineral which is required for reproduction in livestock………………………………..

 **iv)** A mineral required by piglet immediately after birth to control piglet anaemia…………………

**26.**  State **four** factors affecting digestibility **(4 marks)**

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

 **27.** A farmer is required to prepare 100 kg of ration of 30% digestible crude protein ( DCP) from simsim seed cake containing 50% DCP and maize meal 10% DCP. Using Pearson’s square method calculate the amount of simsimand maize the farmer requires.(4marks )

**28.** The photographs below illustrate the parts of a ruminant stomach. Study them and answer the questions that follow.



 **i.** Identify parts A and C **(1 mark)**

 A ……………………

 C…………………….

  **ii.** Give the functions of the part labeled as B and D **(2 marks)**

 B……………………………………………

 D…………………………………………..

**29. a)** Explain **three** field practices in carrot production. **(6 marks)**

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

1. Describe harvesting in onions. **(4 marks)**

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