Candidate's Name: ……

Name of School:……Reference No:……

515/3
Agriculture
Paper 3
July/August
2023
2 *hours*

KAMOTA MOCK EXAMINATIONS 2023

UGANDA ADVANCED CERTIFICATE OF EDUCATION

PRINCIPLES AND PRACTICES OF AGRICULTURE

(PRACTICAL)

P515/3

2 hours

INSTRUCTIONS TO CANDIDATES

Answer **ALL** Questions in this paper

ALL answers should be written on this question paper

1. You are provided with soil samples D4 and D5

You are supposed to carry out some aspects of their physical nature.

a). Measure 40cm^3 of D4 into a 100cm^3 measuring cylinder. Slowly add equal volume of water to D4 in a measuring cylinder. Gently stir the contents in the measuring cylinder to form uniform mixture.

Repeat the procedure with D5 using separate cylinder

Record your results in a suitable table below (04 marks)

Soil Sample	Volume of soil sample (cm^3)	Volume of water (cm^3)	Expected volume (cm^3)	Observed volume of mixture (cm^3)
D4				
D5				

i). Why were the observed volumes of D4 and D5 different from expected volumes? (01 mark)

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ii). What do you observe up on pouring water in both D4 and D5? Give reason for your observation (01 mark)

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Reason (01 mark

D4

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D5

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iii). What was the experiment investigating? (01 mark)

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iv). Calculate the proportion by volume of soil component that you were investigating in D4 and D5. (03 marks)

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b). Fold a filter paper appropriately and insert it in a funnel, place the funnel over the mouth of 100cm^3 measuring cylinder.

Label the cylinder D4. Repeat the procedure using another cylinder and label it D5.

Weigh 30g of D4 and D5 and pour into their respective funnels.

Measure 50cm^3 of water and slowly pour it into D4 funnel until all is finished, repeat this procedure for D5.

Record your results in the table below after 5 minutes in each case (04 marks)

Soil sample	Volume of soil	Volume of	Volume of	Expected

	(cm^3)	water (cm^3)	filtrate (cm^3)	volume (cm^3)
D4				
D5				

i). Explain the variation in volumes of the filtrate in D4 and D5 (01 mark)

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ii). Calculate the proportion of water retained in D4 and D5 after 5 minutes

(02 minutes)

D4

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D5

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iii). Comment on the suitability of D4 and D5 to crop production (01 mark)

D4

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D5

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iv). Describe the identity of the textural class of D4 and D5 (01 mark)

D4

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D5

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2. You are provided with specimen L9 and L10.
   a). Make the following observation on each of the specimen and record your observations in the spaces provided.
   i). Feel the abdomen of the specimens using your fingers and state what you have observed (01 mark)
   L9

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   L10

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   ii). Fit 2-3 fingers in the space between the pelvic bones of the two specimens in turn and record your observation (01 mark)

   L9……

   L10…….

c). Suggest the possible causes of differences between specimens L9 and L10

(01 mark)

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d). What management advice would you give to a farmer to improve upon the fertility of L9 and L10. (01 mark)

L9

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L10

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3. Specimen M1 and M2 are extracts from animal feed stuffs
   a). carry out the tests in the table to identify the nutrients in each extract, record your observations and deductions in the table below (04 marks)

(i)	TESTS	OBSERVATION	DEDUCTION
	To 1cm of M1 in a test tube add 3 drops of iodine solution		
(ii)	Repeat test (i) above using 1cm of solution M2		
(iii)	To 1cm of M1 add 1cm of		

	dilute NaOH, shake then add $CuSO_4$ solution drop by drop while shaking		
(iv)	Repeat test (iii) above using solution M2		

b). Explain the effect of feeding animals on only the feed stuff from which

(i). M1 was obtained (01 mark)

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(ii). M2 was obtained

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c). State the nutritive composition of an ideal ration for a young animal (01 mark)

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4. You are provided with T5, T6, T7 and T8 which are used in a workshop.

a). Describe how T5, T6, T7 and T9 can be used to produce suitable pieces of wood for construction of poultry feeder. (01 mark)

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b). Explain how the design of specimen T6 and T7 suit their function (02 marks)

T6

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T7

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c). How can you improve efficiency when using specimens T6 and T7? (01 mark)

T6

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T7

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d). Explain how durability of T8 may be improved when used to make a poultry feeder (02 marks)

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5. You are provided with specimens F10, F11, F12 and F13.

a)(i). Identify the damages on specimens and suggest control measures (04 marks)

Specimen	Damages	Control measures
F10		
F11		
F12		
F13		

(ii). Name the causes of damages on each of the above specimens F10, F11, F12 and F13 (02 marks)

F10

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F11

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F12

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F13

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b)(i). Give the practical control measures of specimen F13 (02 marks)

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(ii). Specimen F11 is a vegetative propagation material. Draw and label its structure in the space below. (02 marks)

END.