



**AFRICA**  
**UNIVERSITY**  
*A United Methodist-Related Institution*

***"Investing in Africa's Future"***

**COLLEGE OF HEALTH, AGRICULTURE & NATURAL SCIENCES**

**NACP 114: PRACTICAL AGRICULTURE II**

**END OF SECOND SEMESTER FINAL EXAMINATIONS**

**APRIL 2022**

**LECTURER: MR LARRY KIES**

**DURATION: 3 HOURS**

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***INSTRUCTIONS***

Do not write your name on the answer sheet

Use Answer Sheets Provided

Begin your answer for Each Question on a New Page

Credit is Given for Neat Presentation

## NACP 114 Practical Agriculture II

**Answer all questions.**

**For questions involving mathematical calculations, *show all work* and clearly indicate the final answer.**

- 1 Anotidaishe wants to spray her maize with an herbicide named Stellar Star. The label recommends 1 litre per Ha in 256 litres of water.
  - a. How much Stellar Star should she use in one knapsack sprayer holding 16 litres of water? (2 marks)
  - b. What problems can result if too much Stellar Star is used? (2 marks)
- 2 A farmer named Tavonga was calibrating the fertilizer applicator for her planter. She came up with the following numbers:  
Desired application rate: 350 kg/Ha  
Diameter of drive wheel tyre- 60 cm  
Distance between rows- 75 cm
  - a. How much fertilizer should be applied in one row of 100 m? (1.5 marks)
  - b. How many times should the wheel be turned to cover 100 m? (1.5 marks)
- 3 Write short notes on thinning of maize. (4 marks)
- 4 Use the cancellation procedure as discussed in class to answer the following. If you want to check your work using other methods that is fine, but demonstrate your ability to use the cancellation method by showing your work.
  - a. Leon has a plot of maize which measures 8 m x 20 m. He wants to apply Cpd D at a rate of 350 kg/Ha. How much Cpd D does he need for his plot? (2 marks)
- 5 A sow was served by a boar on 3 June.
  - a. Give the date she will come on heat again if she does not become pregnant. (1 mark)
  - b. Give the date on which farrowing should occur if she becomes pregnant. (1 mark)
  - c. What are three signs that a sow is on heat? (3 marks)

6 (67%) Four pigs in a pen were weighed for several weeks, with the recorded results below. The pen was given the same amount of feed every day for a week, as indicated in the table below.

The feed was of good quality. No pigs from other pens were able to get into the pens and eat the food.

		Weight of pigs, kg						
Date	Pig number	334	335	336	338	Total	Kg of feed given daily	Kg of feed given weekly
Week 1	12-18 April	14	13	12	13		2.5	
Week 2	19-25 April	16	15	12.5	15		3	21
Week 3	26 April-2 May	18.5	17	13	17.5		3.5	
Week 4	3 May	21	19	15.5	20		XXXXXXXXXX	XXXXXXXXXX

a. Copy and complete the table below.

(5 marks)

Week	Week beginning	Week ending	Total gain, kg	Total Feed used, kg	Feed Conversion, $\text{Kg}_{\text{feed}} : \text{kg}_{\text{lwg}}$
1	12 Apr	18 Apr			
2	19 Apr	25 April			
3	26 Apr	2 May			
4	3 May	XXXXXXXX	XXXXXXXX	XXXXXX	XXXXXX

*lwg = liveweight gain*

b. Compare the feed conversion in Week 1 with what is considered acceptable for pigs this size. (1 mark)

c. Use the graph paper provided at the end of this exam to draw a graph showing the average size of the pigs and the feed conversion over time. Use two y-axes. Be sure to label the graph and all axes clearly. (4 marks)

7 A sow has 6 piglets.

- How many kg of feed should the sow receive per day? (1 mark)
- What is the symptom that a piglet has scours? (1 mark)
- Give possible reasons why some sows wean small numbers of piglets. (3 marks)

8 Use good, clear English to write brief notes about where and when (growth stage of the crop) to apply nitrogen top dressing to maize. You *may* use diagrams to help clarify. (5 marks)



**TO BE DONE OUTSIDE:**

9 Identify the labeled parts (a. to c.) of the machine and briefly describe the function of each. (6 marks)

10 Use paces to calculate the area of the small lawn outside the lab (the borders will be marked.) Draw a diagram to indicate the shape, and show all calculations on your answer sheet. Give the answer in both square meters and *estimated* in hectares. (5 marks)

11 a. Draw diagrams to show the ear notches of the pigs, and give their numbers. (3 marks)

b. Look at the photos of the animal, then based on the number of teeth, give the appropriate term to describe its stage of development. (1 mark)

c. Use the spring balance to find the weight of object 11c. (1 mark)

d. Write the temperature that is displayed on the clinical thermometer 11d . (1 mark)

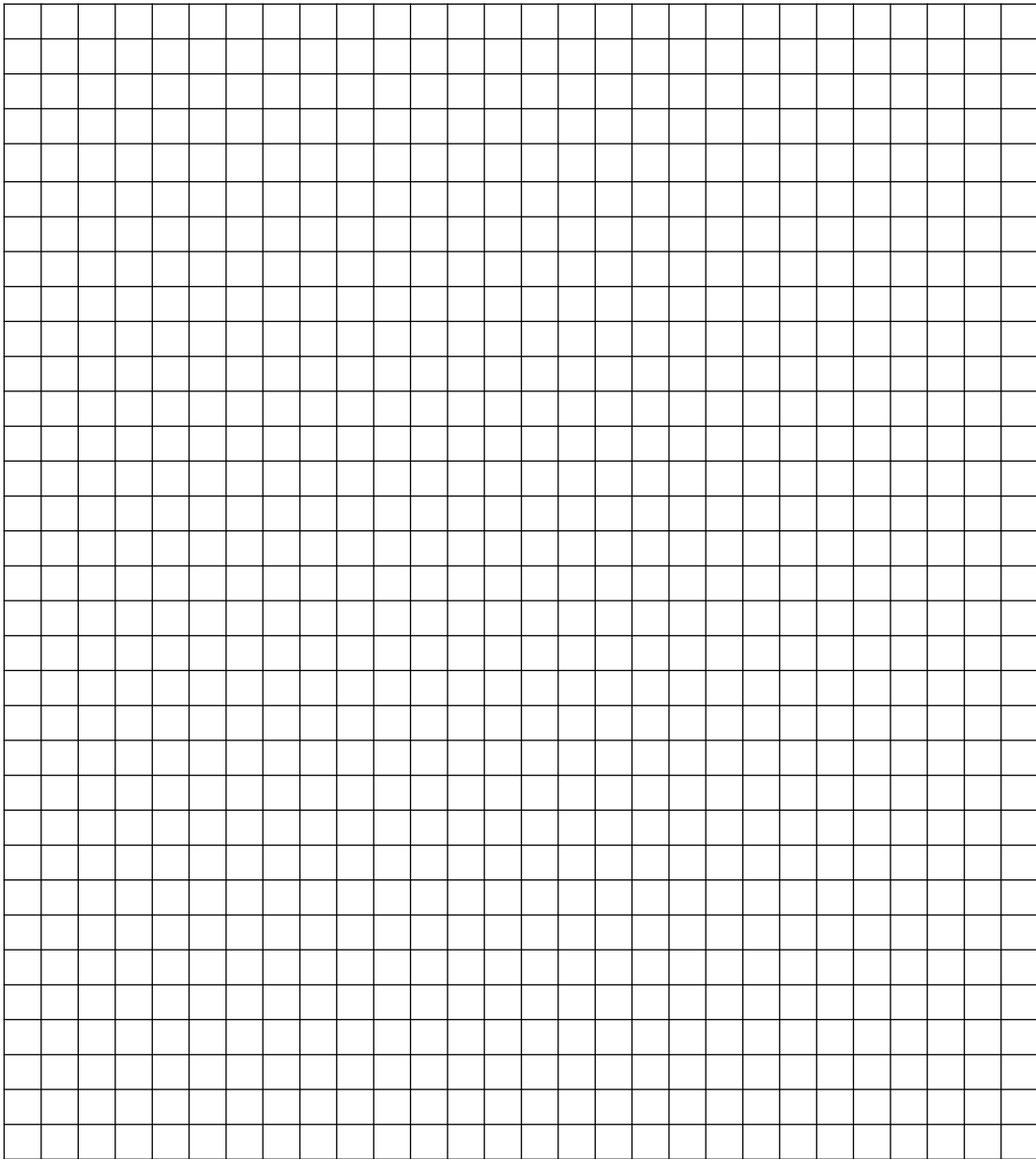
12. a. What is the use of the chemical 12A? . (1 mark)

b. Give the heights of the labeled maize plants. (2 marks)

c. Give the name of this crop plant. (1 mark)

d. Give the name of this crop plant. (1 mark)

STUDENT NUMBER \_\_\_\_\_



**End of Examination Paper**