"Investing in Africa's Future"

COLLEGE OF HEALTH, AGRICULTURE & NATURAL SCIENCES

NACP 113: PRACTICAL AGRICULTURE I

END OF FIRST SEMESTER EXAMINATIONS

NOVEMBER 2021

LECTURER: MR LARRY KIES

INSTRUCTIONS

This exam has three questions. Choose ONE of the questions, then answer ALL parts of the question that you choose.

Do NOT include the questions in your answer sheet. Write **only** the answers.

Do NOT indicate your name anywhere on your answer sheet.

If you have calculations, drawings and/or graphs as part of your answer, you may do them on a separate paper, photograph them, and insert the photo in your document.

Save your file with the format (Question number) (Student number) NACP113 Final Exam.pdf

For example, student number 120120 answering question 1 should have the file name "Q1 120120 NACP113 Final Exam.pdf"
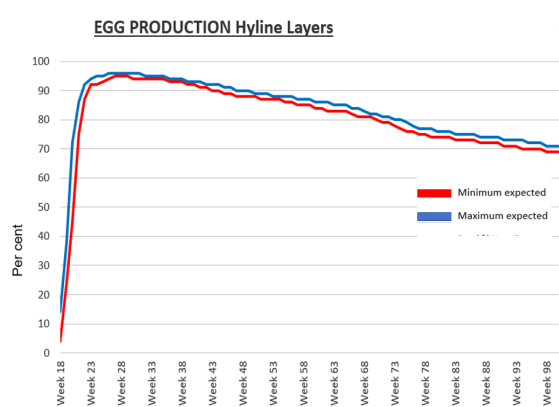
NACP113 Practical Agriculture END OF SEMESTER EXAM

It is important that you do your own work and use your own words. Copying and pasting from on-line sources or soft-copies of other resources (hand-outs, e-books, etc.), will result in serious loss of marks. **Copying other students' work, or allowing another student to copy your work, can result in Failing the Exam with zero marks for both students.**

In all cases, your answers should be based on the information given. For questions involving calculations, **show your work** since marks are allocated for the working.

Question 1

Refer to the graph below in answering question 1a.

a. Rosemary has a flock of layers that started with 500 birds. Part of the records for the flock, as recorded by the worker, is below.

Age in Weeks	Total eggs for the week	Production % hens housed	Birds Remaining	Number died	% Mortality cumulative	Production % hen-day
65	2813	xxxxxx	485	1	xxxxxxxxx	xxxxxxxx
66	2825 **a.**	xxxxxxx	481	4	xxxxxxxxx	xxxxxxxx
67	2378 **b.**	xxxxxxx	479	2	xxxxxxxxx	xxxxxxxx
68	2795	xxxxxxx	**c.**	3	**d.**	**e.**

Refer to the letters **a-e** in bold font in the table above to answer the questions below:

i. State whether the number (**a.**) (Total eggs for week 66) is appropriate for the age of the flock, and justify your answer. (4 marks)

ii.. State whether the number (**b.**) (Total eggs for week 67) is appropriate for the age of the flock, and justify your answer. (4 marks)

iii. Calculate the value of '**c.**'. (2 marks)

iv. Calculate the value of '**d**'. (2 marks)

v. Calculate the value of '**e**'. (2 marks)

vi. Layers concentrate costs $37.00 per 50 kg.
   Maize costs $14 per 50 kg. The mixture used to make layers mash was 2 bags concentrate:3 bags maize.
      Rosemary sells her eggs for $1.40 per dozen.

   Discuss the profitability of her project during week 68.   (4 marks)

b. Explain the procedure of disinfecting a broiler house using a knapsack sprayer.   (6 marks)

c. Write an essay discussing the practical experiences **you** had with *poultry* in this course and how they will help prepare you for a career after graduation.   (10 marks)

d. Tanaka had a batch of 900 broilers. He weighed them every week with the results in the table below.
Draw a graph that shows their growth, being sure to include all relevant axes titles etc. (8 marks)

Age in weeks	0	1	2	3	4		5		6	
					M	F	M	F	M	F
Wt in g	46	103	210	430	840	820	1500	1360	2350	2150

e. Tanaka also kept a record of the numbers in the house. Part of the record is below. Give the values of **W** and **X**, and comment on the acceptability of **W**.   (4 marks)
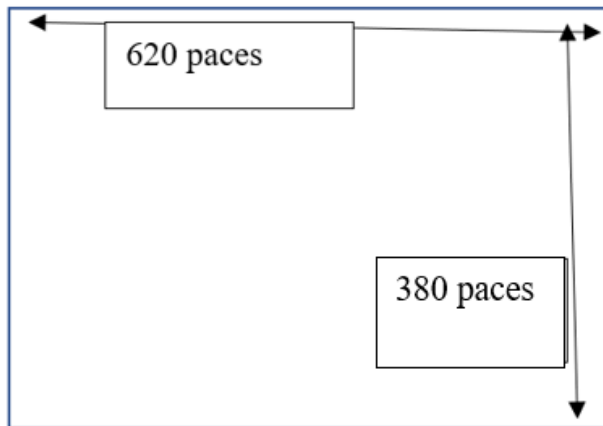
Date	Day	Deaths	Cum Mort	Sold Live	Sold Dressed	Balance	Comments
5 Nov	41	0	30			890	
6 Nov	42	3	**W**	3	25	**X**	

e. To answer the question below, you may use other methods to check your work, but understanding of the conversion method used in class must be shown.

Paul harvested 621 bags (50 kg) of maize from his field measuring 5 Ha.

Calculate his yield in t/Ha and comment on whether it is realistic.   (4 marks)

f. Taffie estimated the length of her pace by taking 68 steps to cover 50 m. She then measured the field below. Give the area in m^2 and *estimated* in hectares. (5 marks)

620 paces

380 paces

g. Give the weights recorded on the scales below. (2 marks)

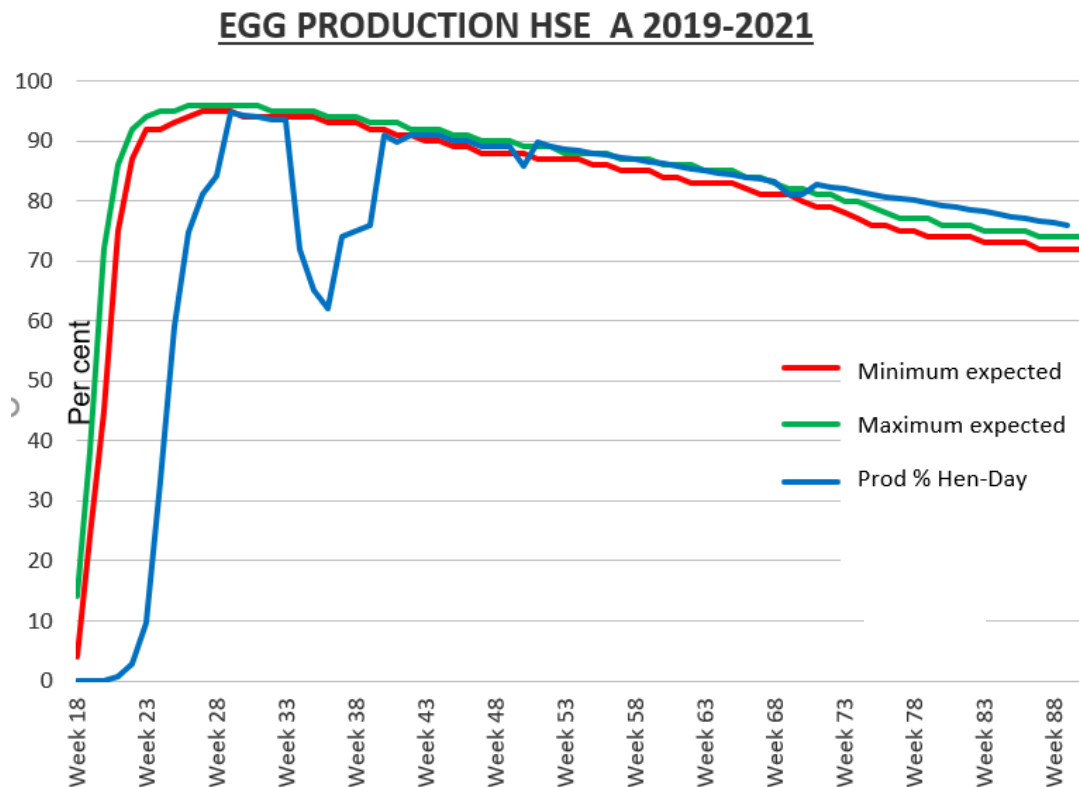| i.	ii.

h. Give three purposes of eartagging a calf. (3 marks)

END OF QUESTION 1.

Question 2.

a. The graph below shows the production of a flock of 2000 layers at Africa University. Answer the questions based on this graph.

EGG PRODUCTION HSE A 2019-2021

i. What was the Production Percent-Hen Day for the weeks below:
   Week 28
   Week 43
   Week 53
   Week 63   (4 marks)

ii. What are the names of the feeds that should be given to the birds:
   before Week 18
   during Week 28   (2 marks)

iii. Discuss possible causes of the change in production in weeks 34-40.   (8 marks)

iv. Layers concentrate cost $33 for 50 kg. Maize cost $13 per 50 kg. The mixture used to make layers mash was 2 bags concentrate to 3 bags maize. Eggs were sold for $1.40 per dozen.
   Discuss the profitability of this flock in week 53.   (7 marks)

b. Discuss the different systems of keeping laying hens and the advantages of each system.
.   (12 marks)

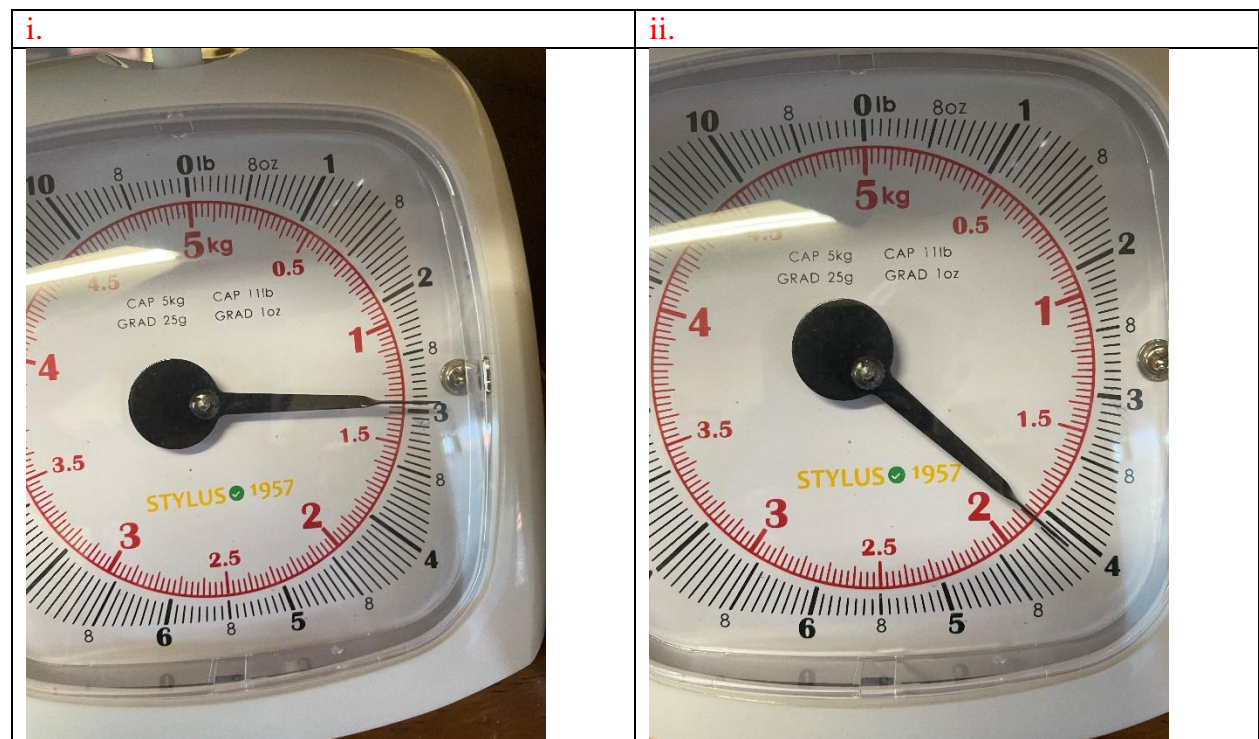c. Explain how to tell if a laying hen is probably productive or not.   (8 marks)

d. To answer the question below, you may use other methods to check your work, but understanding of the conversion method used in class must be shown.

Mollen harvested 15 bags (50 kg) of maize from her field measuring 3 Ha.
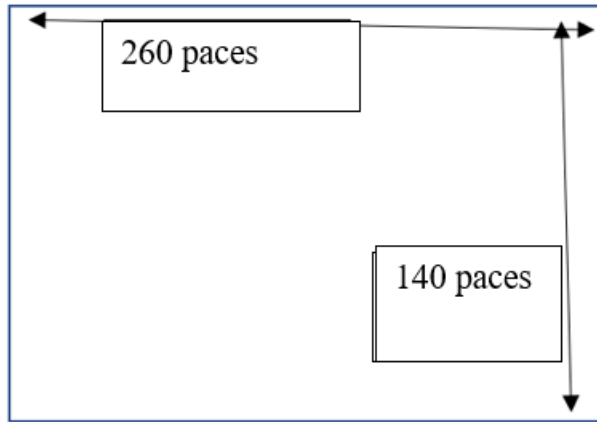
What was her yield in t/Ha? Was it good? Justify your answer.   (4 marks)

e. Discuss how to use your sense of *sight* to assess whether a batch of broilers that is one week old is alright.   (4 marks)

f. Give the weights recorded on the scales below.   (2 marks)

i.	ii.

g. Denis counted 62 paces to walk 50 m. He then measured the field below. What is the area in m^2 and *estimated* in hectares?   (5 marks)

h. Where is an eartag placed in the ear of a calf?

Give three reasons for eartagging calves.   (4 marks)

END OF QUESTION 2.

Question 3.

a. Use the table below to answer the questions. (Note that you do NOT need to copy the whole table on your answer sheet.)

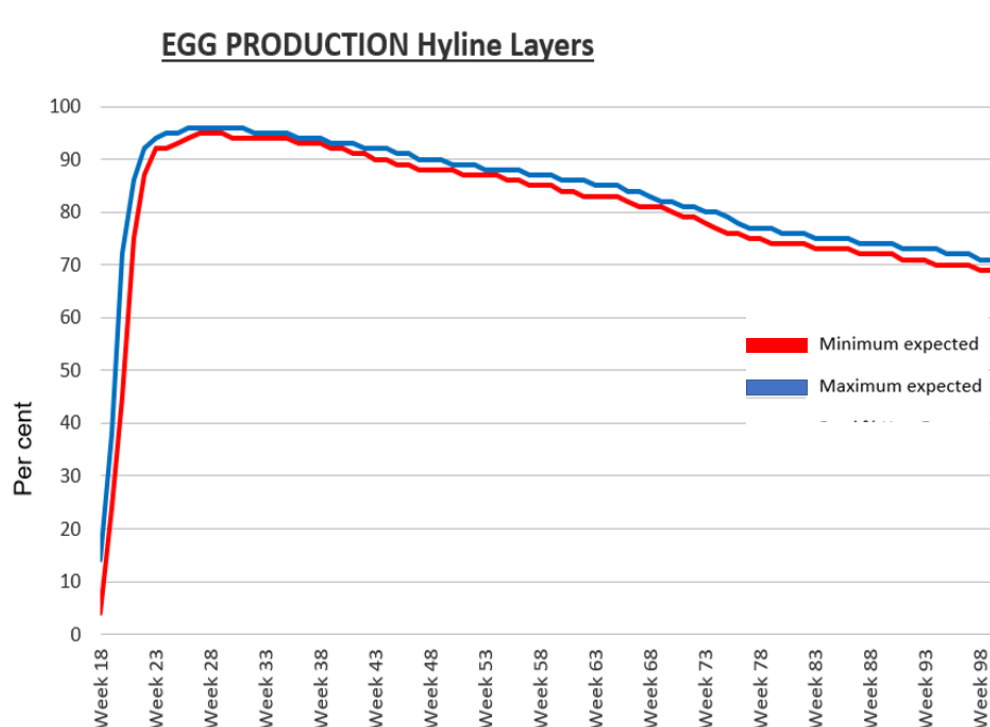|	Flock number Hse B 2010								Age Housed 18 Weeks		No Housed	2831 Age 1st egg		20		
Date	Week	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Total	Cum Total	Prod % Hen Housed	Remain	Died	Culled	%Mortality Cum	Prod% Hen Day
5-Feb-19	18	0	0	0	0	0	0	0	-	0	0.0	2822	9	0	0.3	0.0
12-Feb-19	19	0	0	0	0	0	0	0	-	0	0.0	2820	2	0	0.4	0.0
19-Feb-19	20	1	0	2	0	3	0	3	9	9	0.0	2820	0	0	0.4	0.0
26-Feb-19	21	5	8	14	21	24	28	30	130	139	0.7	2816	4	0	0.5	0.7
5-Mar-19	22	42	54	54	78	90	108	120	546	685	2.8	2815	1	0	0.6	2.8
12-Mar-19	23	150	172	215	280	320	390	488	2,015	2,700	10.2	2814	1	0	0.6	10.2
19-Mar-19	24	558	684	860	994	1090	1315	1308	6,809	9,509	34.4	2811	3	0	0.7	34.6
26-Mar-19	25	1398	1500	1621	1750	1831	1905	1944	11,949	21,458	60.3	2809	2	0	0.8	60.8
2-Apr-19	26	2000	2831	2106	2172	2220	2232	2082	15,643	37,101			1	0	0.8	
9-Apr-19	27	2208	2274	2322	2310	2346	2352	2334	16,146	53,247	W		4	0		
16-Apr-19	28	2248	2314	2422	2410	2446	2452	2434	16,726	69,973		X	3	0		
23-Apr-19	29	2548	2614	2722	2710	2746	2752	2734	18,826	88,799			2	0	Y	
30-Apr-19	30	2533	2599	2707	2695	2731	2737	2719	18,721	107,520			1	0		Z

i. Give the values of W, X, Y and Z, showing your calculations.   (8 marks)

ii. Layers concentrate costs $42 per 50 kg. Maize costs $17 per 50 kg. The mixture used was 2 bags concentrate to 3 bags maize.

Eggs were sold for $2.10 per tray of 30 eggs.
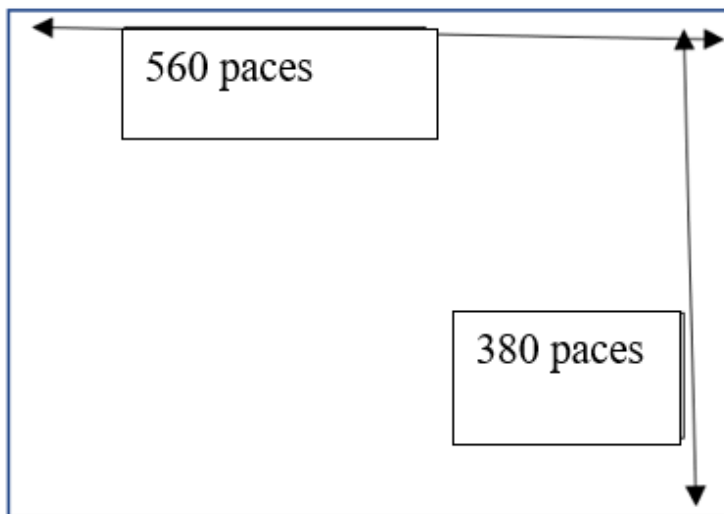
Discuss the profitability of the flock in Week 25.   (6 marks)

iii. Copy the graph below, then plot the Production Percent Hen-Day of House B 2010 for weeks 18-30.   (7 marks)
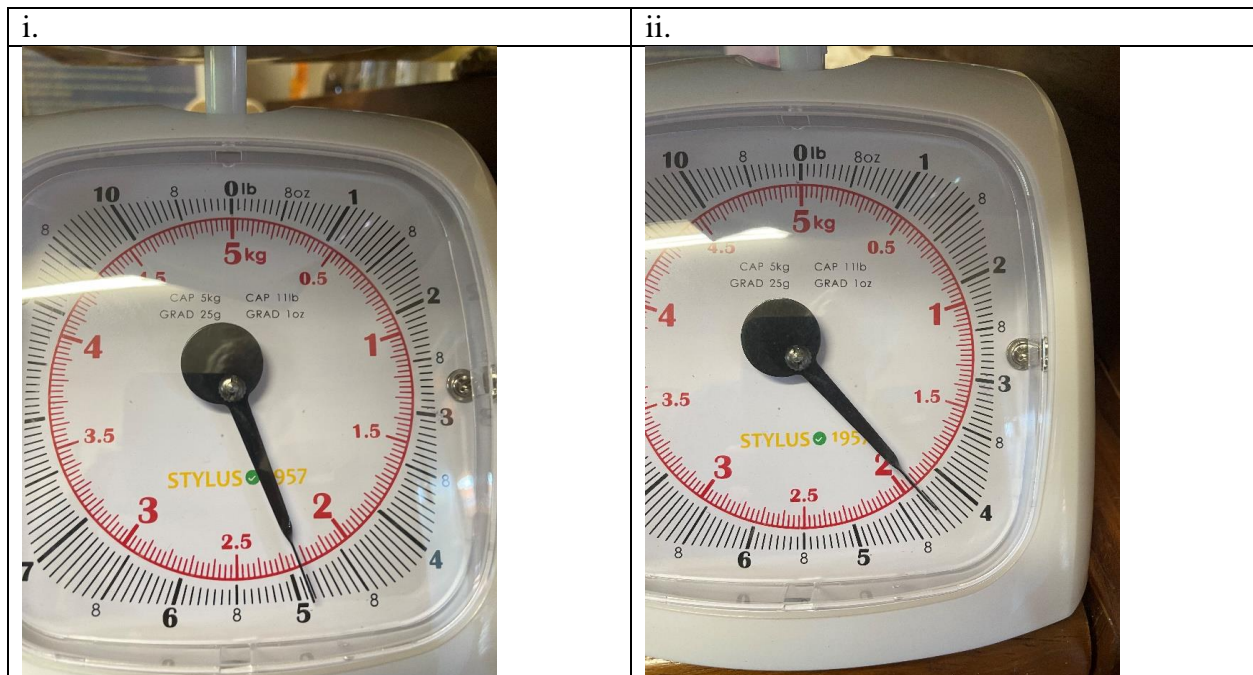

EGG PRODUCTION Hyline Layers

iv. Give the term for: (4 marks)

the disease prevented by LaSota vaccine

a young male chicken

a female chicken that is laying eggs

a female chicken 18 weeks old which is ready to start laying eggs

b. Discuss the activities with pigs that *you* carried out during your Practical Work Experience, and what *you* learned from the activities. (5 marks)

c. Explain how to use your senses to assess whether a flock of broilers is ok. (10 marks)

d. Calculate the below. You may use other methods to check your work, but understanding of the conversion method used in class must be shown.

i. Tavonga harvested 321 bags (50 kg) of maize from her field measuring 5 Ha. Was her yield in t/Ha reasonable? Explain your answer (4 marks)

ii. Fannie planted 4 hectares of potatoes. Her spacing was 0.9 m x 0.35 m (35 cm). The yield was 6 potatoes per plant, weighing an average of 115 g per potato. What was her *total* harvest, in tonnes? Was it reasonable? Support your answer. (4 marks)

f. Marvelous counted 71 paces to walk 50 m. She then measured the field below. What is the area in m^2 and *estimated* in hectares? (5 marks)

560 paces

380 paces

g. Give the weights recorded on the scales below. (2 marks)

i.	ii.

h. Describe the procedure for using Lasota vaccine to vaccinate broilers. (5 marks)

END OF QUESTION 3.