AFRICA UNIVERSITY
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"Investing in Africa's Future"

COLLEGE OF HEALTH, AGRICULTURE AND NATURAL SCIENCES

NACP 113: PRACTICAL AGRICULTURE I

END OF FIRST SEMESTER FINAL EXAMINATIONS

NOVEMBER/ DECEMBER 2020

LECTURER: MR. LARRY KIES

DURATION: 24 HRS.

INSTRUCTIONS

This exam has three questions.

Choose ONE of the questions, then answer ALL parts of the question that you choose.

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.), or from other students' work, will result in serious loss of marks.

Question 1

a. Hazel has a flock of layers that started with 700 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
28	4168	xxxxxx	698	1	xxxxxxxxx	xxxxxxxx
29	3145 **a.**	xxxxxxx	694	4	xxxxxxxxx	xxxxxxxx
30	4180 **b.**	xxxxxxx	692	2	xxxxxxxxx	xxxxxxxx
31	4259	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 29) is realistic and appropriate for the age of the flock, and justify your answer. (4 marks)

ii.. State whether the number (**b.)** (Total eggs for week 30) is realistic and 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 $45.00 per 50 kg.
Maize costs $20 per 50 kg. The mixture used to make layers mash was 2 bags concentrate:3 bags maize.
Hazel sells her eggs for $1.20 per dozen.

Discuss the profitability of her project during weeks 28-31. (12 marks)

b. Explain the procedure of a triple-rinse of a knapsack sprayer, and why it is important. (8 marks)

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

d. Wilfred had a batch of 700 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	45	95	210	415	790	780	1420	1380	2300	2150

e. Wilfred 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)

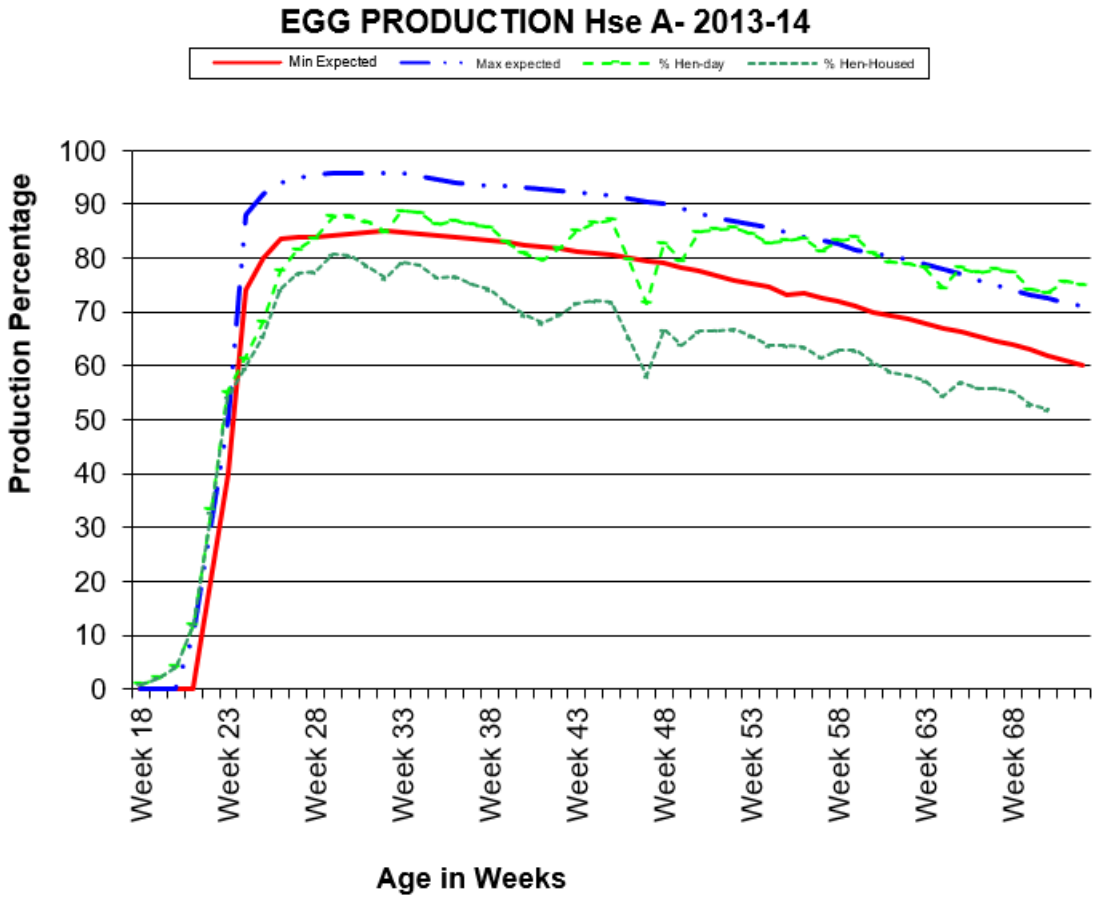
Date	Day	Deaths	Cum Mort	Sold Live	Sold Dressed	Balance	Comments
5 Nov	41	0	30			670	
6 Nov	42	1	**W**	3	25	**X**	

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.

Jonathan harvested 40 bags (50 kg) of maize from his field measuring 6 Ha. Was his yield in t/Ha reasonable? Justify your answer. (4 marks)

Question 2.

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



i. Discuss how the actual production of the flock compared with expected production from weeks 18-21. (4 marks)

ii. Discuss how the actual production of the flock compared with expected production from weeks 68-72. (4 marks)

iii. Discuss possible causes of the change in production in weeks 45-48. (8 marks)

iv. Layers concentrate cost $35 for 50 kg. Maize cost $14 per 50 kg. The mixture used to make layers mash was 2 bags concentrate to 3 bags maize. Eggs were sold for $2.60 per tray of 30. Discuss the profitability of this flock in week 53. (8 marks)

v. Discuss mortality in this flock (based on this graph). (4 marks)

b. Kuda had a broiler project. His record keeping showed the following:

Purchased 600 day-old chicks for $1.00 each.
Feed used: Broiler starter mash- 11 x 50 kg bags @$35 per bag
Broiler finisher mash 32 x 50 kg bags @$33 per bag
Medicines- Vaccines- $28 total
Labour- Malcolm- Two months @$30 per month
*Casual employees for slaughtering- $*52
Anglebert (security) Two months @$15 per month

*Wood shavings- no charge but the transport cost $*20
*Water and electricity- $*26
Plastic bags $18

Sales- 40 birds sold live @$5 each
501 dressed birds, total of 726 kg of meat @$2.80 per kg
Offals and heads- $40.00 total

i. Make a table that clearly summarizes the finances of the project. (12 marks)
ii. Calculate the feed conversion ratio of the birds and comment on it. (6 marks)
iii. Calculate the mortality and comment on it. (4 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.

Euridice harvested 260 bags (50 kg) of maize from her field measuring 2 Ha. Was her yield in t/Ha reasonable? Justify your answer. (4 marks)

e. Describe three practical activities that you carried out this semester which were new to you. (6 marks)

Question 3.

a. Use the table below to answer the questions. Show your calculations.

2017-2018	Flock number	Hse B	2017-18	1752			Date Housed	8-Aug-2017	Age Housed	18 Weeks	No Housed	2769	Age 1st egg	19 Weeks		
Date	Week	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Total	Cum Total	Prod % Hen Housed	Remain	Died	Culled	%Mortality Cum	Prod% Hen Day
8-Aug-17	18								0	0	0.0	2764	5		0.2	0.0
15-Aug-17	19	0	3	4	4	7	9	12	39	39	0.2	2758	6		0.4	0.2
22-Aug-17	20	24	39	48	72	96	120	132	531	570	2.7	2752	6		0.6	2.8
29-Aug-17	21	150	234	264	240	324	396	426	2034	2604	10.5	2743	9		0.9	10.6
5-Sep-17	22	498	582	648	684	738	828	840	4818	7422	24.9	2743	0		0.9	25.1
12-Sep-17	23	984	1032	1056	1110	1200	1302	1356	8040	15462	41.5	2730	13		1.4	42.1
19-Sep-17	24	1470	1590	1608	1632	1656	1710	1620	11286	26748	58.2	2719	11		1.8	59.3
26-Sep-17	25	1728	1734	1680	1698	1740	1782	1860	12222	38970	63.1	2709	4	6	2.2	64.5
3-Oct-17	26	1806	1824	1879	2001	2130	2130	1770	13540	52510	w		3			
10-Oct-17	27	1860	2178	1920	1896	2196	2184	2046	14280	66790		x	5			
17-Oct-17	28	2088	2214	2226	2256	2256	2262	2262	15564	82354			2		y	
24-Oct-17	29	2232	2202	2532	2226	2208	2160	1854	15414	97768			4			z
31-Oct-17	30	2130	2130	2022	2058	1958	1998	1986	14282	112050	73.7	2692	3		2.8	75.8

i. Give the values of w, x, y and z. (12 marks)

ii. Layers concentrate costs $42 per 50 kg. Maize costs $18 per 50 kg. The mixture used was 2 bags concentrate to 3 bags maize.

Eggs were sold for $2.50 per tray of 30 eggs.

Discuss the profitability of the flock in Week 30. (8 marks)

iii. Give the most likely explanation for why Prod% Hen-Day was only 10.6 in week 21. (4 marks)

b. Discuss the activities you carried out during your Practical Work Experience, and what you learned from the activities. (10 marks)

c. A group of students slaughtered broilers, weighed the different components, and compiled the results in the table below.

Animals ID	Livewt g	carcase, g	feet, g	liver , g	gizzard, g	neck, g	heart, g	intestines, g	head, g	Dressing %, without giblets	Dressing %, with giblets
Panashe	1913	1435	66	40	49	71	10	72	49	**w**	**x**
Clinton	1911	1470	66	42	38	78	9	104	68	76.9	88.6
Kudzai	1783	1340	77	49	40	23	10	111	51	75.2	85.8
Blessing	1890	1420	79	44	42	62	10	60	47	75.1	87.1
Ave Gr 1											
ave % of liveweight	100	**y**									
ave % of carcase wt		100.0			**z**						

i. Give the values of W, X, Y and Z, showing your calculations. (12 marks)

ii. What is the most likely reason that Kudzai's Dressing Percentage with giblets was lower than others? (2 marks)

iii. Discuss factors that will affect dressing percentages. (8 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.

Shekinah harvested 427 bags (50 kg) of maize from her field measuring 4 Ha. Was her yield in t/Ha reasonable? (4 marks)