"Investing in Africa's future"

COLLEGE OF HEALTH, AGRICULTURE & NATURAL SCIENCES

NAAS 301: APPLIED ANIMAL NUTRITION

END OF FIRST SEMESTER FINAL EXAMINATIONS

NOVEMBER/DECEMBER 2022

LECTURER: DR. S. CHAKEREDZA

DURATION: 3 HOURS

INSTRUCTION

Answer All Questions from Section A

And Answer Three Questions from Section B

Section A (answer all, possible marks 40)

1. List the components of the Proximate Scheme of Animal feed analysis. [6]
2. What are the shortcomings with the Proximate Scheme of feed analysis. [5]
3. What is being proposed as the way forward in Animal Feed analysis given the shortcomings of the Proximate Scheme. [5]
4. State the major differences between ruminant and non-ruminant animals [9]
5. Show diagrammatically energy partitioning in an animal indicating clearly where and how energy losses occur up to net energy. [15]

Section B (Choose any 3, maximum possible marks 60)

6. In formulating concentrates to feed to animals normally the Pearson Square is used. formulate a concentrate fraction to achieve 16 % crude protein (CP) using soybean meal (45 % CP) and maize meal (9.6 % CP). Show your working and at the end show how the percentage inclusion is arrived at [20]

7. Using the Pearson Square formulate a concentrate to have 14 % CP portion using three ingredients: Soyabean meal 45 % CP, Maize meal 8.9 % CP and wheat meal 10 % CP. Clearly show your working. [20]

8. Discuss in order of priority how you would allocate feed to your stock running a farm taking into account productive state, nutrients available, ration formulation, quality control, monitor performance and also take account of non-nutritional aspects. [20]

9. In animal food digestion trace the source (place of digestion), enzyme, substrate worked on and the end-product of digestion [20]

10. Discuss on the limitations experienced by smallholder animals in keeping their livestock fed at optimal nutrition levels. [20]

END OF EXAMINATION PAPER