AST 403: ANIMAL FEED AND FEEDING II

INSTRUCTION: ANSWER 5 QUESTIONS IN ALL, AT LEAST ONE QUESTION FROM EACH SECTION. TIME ALLOWED: 3HRS

SECTION A.

1a. list and discuss the various feed nutrients and their functions.

    b. define and discuss Apparent digestibility (AP)

    c. How does Apparent digestibility differ from True digestibility (TP).

2. The following data were generated from a digestibility trial generated from a digestibility trial conducted in SAAT Teaching and Research farm:

	Feed Composition A	Coefficient of Dig. B	% of dig. Nutrient (A x B)/100
Dry matter	91.05	50.50	
Crude protein	8.70	49.40	
Crude fat	2.01	55.50	
Crude fibre	27.89	34.30	
NFE	48.22	62.00	
Mineral	4.68	27.90	

Calculate the total digestible nutrient (TDN) from the above data.

SECTION B

3a. what is feed and its three major groups based on composition.

b. Give two examples each of the following groups of feed.

    i. High protein feeds of Plant origin.

    ii. High protein feeds of Animal origins.

    iii. Air dried roughages.

    iv. High moisture feeds.

    v. High energy feeds.

c. 100g of a certain feed was found on analysis to contain 50g carbohydrates, 30g proteins and 5g oil. Calculate the amount of metabolic water derivable during the metabolism of this feed.

4a. what are the main objective in Hay making and outline the steps taken to ensure proper hay making.

    b. Give reasons why tropical grasses do not make good silage.

    c. Name the 3 different silos you know stating one feature of each silo.

    d. Discuss the preparation for silage making and how silage is formed.

SECTION C

5a. Using this feedstuffs table

Ingredient	CP (%)	ME (Kcal/Kg)
Maize	10	3440
Sorghum	11	3250
Wheat bran	15	1256
BDG	27	2513
GNC	45	2960
SBM	48	2420
Fish meal	52	2060
Blood meal	80	3000

Formulate a broiler starter ration that contains 23% CP and 3000Kcal/Kg ME (Use double Pearson method).

b. Verify the CP and ME values of the ration formulated above.

6a. Explain the term 'nutrient requirement for poultry'.

b. Distinguish between nutrient requirement and nutrient allowance in ration formulation.

c. Give reasons for a margin of safety allowance in poultry rations in the tropical environment.

SECTION D.

7ai. In a feeding experiment with growing lambs, animals of the same age, breed, sex and adequate number are used, why?

ii. How do we replicate in feeding experiments?

iii. Distinguish between balance trial and digester trial.

b. A researcher obtained the following weight gains in a feeding experiment;

Parameter	Diet Treatment A			Diet Treatment B		
	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3
Body Weight gain	380.00	364.00	169.00	326.00	320.00	570.00

i. Formulate a hypothesis for this study

ii. Using appropriate statistical methods, test your hypothesis and show clearly which hypothesis you uphold and why?