

**College of Agriculture, Forestry and Fisheries**  
**Department of Animal Science**  
**Bachelor of Veterinary Science and Animal Husbandry**  
**Trimester 3. 2017 Examination**

**ANN 502: Applied Animal Nutrition-I (Ruminants)**  
**Koronivia Campus**

Duration: 3 hours 10 minutes

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**INSTRUCTIONS TO STUDENTS:**

Write your candidate number at the top of each sheet used

Read all instructions carefully before you answer all questions, answer all the objective type questions on the answer sheet and descriptive type question in the answer booklet only.

Insert all written foolscaps and like, in their correct sequence and secure with a string.

For all sheets of paper on which rough/draft work has been done, cross it and you **MUST ATTACH** them to your answer script.

Write clearly the number(s) of the question(s) attempted on the top of each sheet.

Calculator must be used not mobile phone to do all computations

<b>SECTIONS</b>	<b>TOTAL MARKS %</b>
<b>Part 1</b>	
A. MULTIPLE CHOICE	10
B. TRUE OR FALSE	10
C. FILL IN THE BLANK	20
<b>Part 2</b>	
A. DESCRIPTIVE QUESTIONS	60
 <b>TOTAL</b>	 <b>100</b>

Part 1

Section A Multiple Choice

10 marks

1. Phosphorus deficiency in diets grazing animals causes

A.	blind	C.	absorb fetus,
B.	Suppressing of oestrus cycle	D.	All the above

2. Protein deficiency in diets of grazing animals leads to

A.	Increase growth rate	C.	Decrease tempearature
B.	Reduction in feed intake	D.	B & C

3. Feeding high starch diet to dairy cows will lead to

A.	Elevated plasma insulin concentration	C.	Biting
B.	Decrease plasma insulin concentration	D.	None of the above

4. One of the five steps to improve and better manage your pastures

A.	Burning of weeds	C.	Overgrazing
B.	Planting of Navua sedge	D.	None of the above

5. What determines feed palatability?

A.	Sight	C.	Smell
B.	Taste	D.	All of the above

6. Limitations to laboratory method of determining digestibility

A.	No mastication	C.	No passage
B.	No rumination	D.	All the above

7. Cattle and horses cannot eat forage.

A.	more than one- half inch tall	C.	less than one- half inch tall
B.	less than two- half inch tall	D.	All the above

8. Sheep and goats can graze

A.	level with the soil surface	C.	Less than 2 inch tall
B.	Below the soil surface	D.	All the above

9. Heaviest grazing occurs

A.	2 to 3 hours before sunrise	C.	1 to 2 hours before sunset
B.	3 to 5 hours before sunset	D.	2 to 3 hours before sunset

10. Zero grazing advantage

A.	Reduces weed growth	C.	Reduce soil erosion
B.	Low start up cost	D.	Requires less space

**Section B: True or False**

**10 marks**

1. Nadi blue is a leguminous pasture
2. Phase five feeding programme for lactating cow is the last 1 to 3 weeks prepartum
3. Dairy cows can easily recoup lost milk production after poor feeding.
4. Sheep and goats graze more selectively than large ruminants
5. Cattle are less able to graze selectively than small ruminants
6. The increased need for energy for countering extreme cold stress reduces feed intake and flow of digesta through the rumen and the intestinal tract.
7. in practical feeding of ruminants, it is nutrient imbalance that primarily limits the level of feed intake and therefore productivity
8. Intake is also affected by the interaction between the balance of nutrients in the absorbed products of digestion and environmental factors.
9. The most critical feeding period for lactating cow is phase four
10. Ruminant animals are more efficient in the digestion of high-fibre, low protein forage.

**Section C: Fill in the blank.**

**20 marks**

1. Low \_\_\_\_\_ production and \_\_\_\_\_ problems occur when nutrient levels are not met (2 marks)

2. Lactating cows require \_\_\_\_ feed to replace a pound of body tissue than dry \_\_\_\_ (2 marks)
3. \_\_\_\_\_ is a critical nutrient during \_\_\_\_ lactations (2 marks)
4. Forages \_\_\_\_\_ are unable to promote required levels of animal production due to their \_\_\_\_\_ in feeding values(2 marks)
5. Excessive feed \_\_\_\_\_ of feed leads to \_\_\_\_ accumulation (2 marks)
6. \_\_\_\_\_ is estimated by correcting for the endogenous and microbial amount of a nutrient actually lost in the faeces (2 marks)
7. \_\_\_\_\_ is the total heat of combustion of a feed substance measured in calories or Joules per unit weight of dry matter (DM) or organic matter (2 marks).
8. \_\_\_\_\_ is commonly taken as an indicator of a feed's energy value because faecal losses are relatively easy to measure (2 marks)
9. Very \_\_\_\_\_ or very old animals are usually \_\_\_\_\_ efficient in their digestion of feeds (2 marks)
10. Chemical composition \_\_\_\_\_ the forage is affected by factors like \_\_\_\_\_ of maturity of the plant (2 marks)

## Part 2

### Section A: Descriptive Questions

**60 marks**

**Note: Attempt any six (6) Questions Only. All carries equal ten (10) marks.**

1.	Discuss phase 5 feeding of the dairy cattle	(10)
2.	Discuss phase 2 feeding of dairy cattle	(10)
3.	Write exclusively on factors that affect feed intake in ruminants.	(10)
4.	Discuss the importance of feed intake in ruminant.	(10)
5.	Calculate the digestibility of 9 kg hay grass fed on cows containing 7 kg of dry matter and excreted 3 kg of dry matter in faeces.	(10)
6.	Calculate the gross energy and digestibility energy content of Koronivia grass fed on sheep. (Refer to A1 below for details).	(10)
7.	Discuss nutrients requirements for growth and maintenance	(10)
8.	Discuss rotational and continuous grazing.	(10)
9.	Discuss the effect of nutrients on fertility.	(10)

**A1.** Sheep consumed 1.63 kg Koronivia dry grasses and excreted 0.76 kg faecal DM. Assume that GE content of setaria and faeces determined by bomb calorimeter = 18.0 MJ/kg DM and 18.7 MJ/kg DM, respectively. Determine the GE input / output and GE digestibility and DE of Koronivia grass.

**THE END**