MS in Animal and Poultry Nutrition
Final Examination January to June Semester/2024
Sub: Therapeutic Nutrition
Course code: TPN-601
Marks: 40 Time: 2 hours

(Answer any four questions from the following in which **Q no 1** is compulsory. Figure in the right margin indicates full marks)

1.	a.	What do you mean by therapeutic nutrition? Indicate the importance of therapeutic nutrition.	3.0
	b.	Mention the supportive clinical tests, treatment and prevention of Milk fever, ketosis and Displaced Abomasum.	7.0
2.	a	What do you mean by malnutrition and how will you diagnosis it? Write briefly the treatment and prevention procedure of malnutrition in ruminants.	6.0
	b	Write down the deficiency symptom and sources of Vit D, VitE in cattle and B_2 & B_{12} in poultry.	4.0
3.	a	Discuss briefly about the paternal nutrition of goat and cattle.	6.0
	b	Write down the feeding system of sick dog and cat.	4.0
4.	a.	Write down the symptom and risk factor of obesity. Indicate the strategies of loss weight for dogs and cats.	5.0
	b.	Mention the supportive treatment and prevention of off feed problem and infertility.	5.0
5.	Write short notes on (Any two)		5.0 x2 = 10

a. Abortions
b. Mal absorption
c. Cystic Ovaries

Chattogram Veterinary and Animal Sciences University

Department of Animal Science and Nutrition

Semester Final Exam of MS in Animal and Poultry Nutrition (January-June/2024)

Course Code: ABS-601, Course Title: Applied Biostatistics

Full Marks: 40 Time: 2 hours

[*Answer any **five (5)** questions. Figures in the right margin indicate full marks. Split answering is not recommended*]

1. 30 sexually mature ewes assigned to three groups consisting of three ratios of concentrate (C) to roughage (R), Group1. 80%C: 20%R, Group2. 70%C: 30%R and Group3. 60%C: 40%R to observe the weight gain for a period of time. The result of this study was recorded and was not normally distributed. It was observed that the live weight of ewes had significant mean differences among three groups. Write down the analysis of variance (ANOVA) procedure of this test. 8.0

2. The birth weight of lambs was recorded from two groups where concentrate and roughage ratios given (Group1. 80%C: 20%R, Group2. 70%C: 30%R) to ewes. Are there any significant mean birth weight differences for two groups? 8.0

3. A random sample of 10 lambs was taken and the mean birth weight was 5 kg. How can you test whether the birth weight variation of lambs was 900 gm or not? 8.0

4. Different concentrate and roughage ratios during gestation period had an effect on neonatal behavior from birth to stand time (min). Which statistical tool can be used to quantify the giving more concentrate, need to less time to stand of neonatal? Define and state the properties of this tool. 8.0

5. What is simple linear regression model? Estimate the parameters of a simple linear regression model. 8.0

6. What is nonparametric test? Write down the application situation of this test. State the equivalence test of parametric and nonparametric test. 8.0

7. Define sampling with its classification. Write a situation of applying stratified random sampling. 8.0

MS in Animal and Poultry Nutrition
Final Examination January to June Semester/2024
Sub: Feed Processing and Evaluation
Course code: FPE-601
Marks: 40 Time: 2 hours

(Answer any four questions from the following in which **Q no 1** is compulsory. Figure in the right margin indicates full marks)

1.	a.	What is the role of nutritionist in a feed milling technology? Briefly discuss the steps for making pellet in feed mill	6.0
	b.	Indicate the characteristics of selection and purchase of raw materials	4.0
2.	a.	How will you evaluate the feed in physical method? Indicate the common adulterants and toxin in Maize. Rice. Soybean. Fishmeal and DCP.	4.0
	b.	List the handling equipment and machineries require for run a feed mill and indicate the functions and basis of selection of Bucket elevator and Mixer.	6.0
3.	a	Mention the different feed processing methods.	3.0
	b	Discuss briefly three grain processing and three roughage processing methods suitable for ruminants.	7.0
4.	a	Indicate the effect of feed processing on feed quality and nutrient utilization.	5.0
	b	What do you mean by Vitamin and Mineral? Discuss briefly the coating process of synthetic Vitamin and Minerals.	5.0

5. Write short notes on (Any Two) 5x2 = 10

a. Energy estimation.
b. Adding of liquid in feed.
c. Factors that affect pellet quality.

Chattogram Veterinary and Animal Sciences University
Department of Animal Science and Nutrition
M.S. in Animal and Poultry Nutrition
Semester Final Examination-2024
Sub: Feed Biotechnology(T)
Full Mark-40

Answer any four Question from the following

1.	a)	What do you mean by Feed Biotechnology? Describe about the scope of feed biotechnology in livestock Production.	5
	b)	Mention the name of feed biotech products with their uses.	5
2.	a)	What is protein concentrate? Write down the name of some protein concentrate available in the market with nutritional composition.	5
	b)	Describe about the production procedure of protein concentrate.	5
3.	a)	Define probiotic and prebiotic. Mention the name of those product available in the market with their composition.	5
	b)	Describe about the probiotic production technology.	5
4.	a)	Describe about vitamin mineral premix, fat and water soluble vitamin.	5
	b)	Mention about the production procedure of vitamin mineral premix.	5
5.	a)	Briefly describe about the toxin binder and pellet binder.	5
	b)	Mention the production procedure of toxin binder.	5

Department of Animal Science and Nutrition
Chittagong Veterinary and Animal Sciences University
MS in Animal and Poultry Nutrition
Semester Final Examination (January-June 2024)

Course Title: Nutrition Studies and Research (Theory)

Course code: NSR-601, Full marks: 40, Time: 2 hours

Figures in the right margin indicate full marks. Answer all four (4) questions. <u>There is no way to consider fragmented answers!</u>

1.	How should you evaluate livestock feed? Which method is best for evaluating feed for ruminant livestock and why? How should you measure herbage intake in large animals?	10.0
2.	How should you design a feeding trial for assessment of the effects of intervention in broiler birds? Why is it important to formulate research diet before conducting clinical trials?	10.0
3.	How should you minimize errors in the controlled clinical trials? When and how should you estimate main and interaction effects from the clinical trials? Why researchers prefer factorial trials?	10.0
4.	How should you compile, analyze and interpret research data? How do outliers affect interpretation of research findings? When should you conduct a post-hoc statistical test?	10.0

Department of Animal Science and Nutrition
Chittagong Veterinary and Animal Sciences University
MS in Animal and Poultry Nutrition
Semester Final Examination (January-June 2024)

Course Title: Modern Techniques in Nutrition Studies (Theory)

Course code: MTN-601, Full marks: 40, Time: 2 hours

Figures in the right margin indicate full marks. Answer any four (4) questions. <u>There is no way to consider fragmented answers!</u>

1. Is Near Infra-Red Spectroscopy (NIRS) really a sustainable breakthrough in the field of animal nutrition? Should we replace it with traditional wet chemistry? What are the calibration drawbacks of NIR compared to traditional wet chemistry and how do you think to resolve them? 10.0

2. What is the best method for tracing ultra critical quantity of metal analyte in the unknown solutions? Despite spectrophotometric techniques, why has atomic absorption spectroscopy been evolved in the field of feed industry? What are the principle, merits and demerits of this technique? 10.0

3. What are the implications of *in vitro* Menke's gas technique in ruminant research? How should you proceed to estimate degradability of organic matter (DOM) for dried German grass in Menke's gas technique? 10.0

4. Why dacron bag technique is neither an *In vivo* nor an *In vitro* technique? Discuss the implications and drawbacks of the technique? Under existing set up, *in vivo*, *in vitro* or *in sacco* - which technique will be more feasible for CVASU? 10.0

5. Is bomb calorimetry inevitable for modern nutrition research? What are the available different types of bomb calorimetry and what are their bottlenecks? How would you evaluate sorghum hay using bomb calorimetry? 10.0