

January to June Semester, 2016 Final Examination
 Department of Animal Science & Nutrition
MS in Animal Nutrition
 Chittagong Veterinary and animal Sciences University
 Course Title: Applied Biostatistics (Theory)
 Course Title: ABS-601
 Full Marks: 40 Time: 2 hours

Answer any 4 from the following questions. Values are shown in the right margin in each question

- 1) a) Find out the correlation coefficient of the variables from the given data of weight and age of Chickens from the following sample and comment. 5

Age(month)	5	7	9	11	13	15
Weight(kg)	.25	.45	.60	.80	.90	1

- b) Can you predict the weight of chickens when age will be 20 months using the data given in Question (a)? 5

- 2) a) Define treatment and block with an example each. 4
 b) 3 different kinds of hormone were applied to 4 blocks of chickens. Are the treatment and block statistically significant? 6

Block/Treatment	1	2	3
1	1.5	1.3	1.5
2	1.4	1.8	1.6
3	1.35	1.55	1.12
4	1.7	1.1	1.71

- 3) a) Write the test statistic to test the followings: 2x2=4
 i) difference between two population means when $n_1=10, n_2=15, \sigma =0.25$
 ii) difference of a population mean with 25 when $n=15, s=0.36$

- b))The authority of Aaroong claims that the selling price of their certain dairy product is very standard and it is 150tk per unit with standard deviation of 45tk. Consumer's Association of Bangladesh wants to clarify this price using statistical procedure. A random sample of the selling prices of 100 products were collected from Aaroong. The average price per unit was 151tk. Can CAB conclude at 5% level of significance that the average price is standard? 6

- 4) a) Define Chi square. Write some of it's uses. 4
 b) A certain drug is effective in curing cold. In an experiment on 500 farm owners suffering from half of them were given sugar pills and half of them were given drug. The reaction to the treatment on patients are recorded as: 6

	Helped	Harmed	No effect
Sugar pills	130	40	80
Drug	150	30	70

- 5) a) Define LSD elaborately it's advantages and disadvantages. 5
 b) Define RBD with a practical example in your field. When RBD will turn into CRD? Explain.. 5

Department of Animal Science and Nutrition
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MS in Animal and Poultry Nutrition
Semester Final Examination January-June 2016
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. There is no room to consider fragmented answers!

1. "Near Infra Red Spectroscopy (NIRS)"-Is it a hypothetical dream or a real breakthrough in the history of animal nutrition? What are calibration drawbacks of NIR compared to traditional wet chemistry and how do you think to resolve them? 10.0
2. 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 poultry manure 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. Why would you like to go for bomb calorimetric technique? Briefly discuss different types of bomb calorimetry with their bottlenecks? How would you evaluate calf manure using bomb calorimetry? 10.0
6. How does respiration calorimetry work? What are the implications, merits and demerits of respiration calorimetry? Why NE is mostly ignored for feeding cattle in developing countries? 10.0

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Semester Final Examination (January-June 2016)
Course Title: Therapeutic Nutrition (Theory)
Course code: TPN-601, Full marks: 40, Time: 2 hours

(Figures in the right margin indicate full marks. Answer any four (4) questions of the following where question no. 1 is compulsory. All questions must be answered chronologically. Split answers are discouraged)

1. (a) What are the basic principles of therapeutic diets? Briefly discuss about different types of therapeutic diets used for animals. 5.0
(b) Mention the therapeutic diets used in treatment of calf scour, urolithiasis, ketosis, grass tetany and displaced abomasum of ruminants. 5.0
2. (a) Write down the normal conditions of rumen. Give an idea of impaired metabolism of ruminants related to nutrition. 5.0
(b) Suppose a sick dairy cow with a history of feeding grain has been taken to SAQTVH. Ruminal fluid pH of that cow is 4.5. Diagnose the case and give the line of treatment. 5.0
3. (a) What do you mean by input and output of nutrients? Sketch the consequences that occur during malnutrition. 5.0
(b) Draw the diagram of energy partitioning in animal body. Explain the ways of measuring the apparent digestibility and true digestibility. 5.0
4. (a) In which cases oral nutrition is suggested by a veterinarian? How can you prevent the incidence of metabolic diseases by adapting different nutritional strategies? 5.0
(b) Write down the etiology, pathogenesis, clinical signs and treatment of milk fever. How can you prevent the occurrence of this disease in cattle? 5.0
5. (a) Explain the principles and procedure of compton metabolic profile test. How can you interpret the results? 5.0
(b) What are the key facts of feeding a sick pet. Give a brief description of medications and feeding supplements of hip dysplasia, osteoarthritis, dilated cardiomyopathy in pets. 5.0

MS in Animal and Poultry Nutrition Final Examination
January to June Semester 2016
Subject: Nutrition Studies and research (NSR-601)
Total Marks: 40, Time: 2 hours

Answer any five (05) from the following questions where question no. 6 is compulsory

(5x8) = 40

1. a) Define TDN with its equation. How does digestion trial differ from metabolism trial? 4
b) Discuss the conventional method of digestibility determination. 4
2. a) What is pasture? How can you measure the feed intake of a grazing animal at pasture level? 4
b) What is fermentation? Briefly discuss the use of VFA in ruminant. 4
3. a) Briefly discuss about the use of markers to study the rate of passage and digestibility in ruminants. 4
b) How could you evaluate the quality of an imported feed supplied from a custom's house? 4
4. a) Discuss the measurement procedure of ammonia nitrogen in rumen liquor. 4
b) What are the microbes found in the rumen? Discuss their role in fermentation of feed. 4
5. a) Discuss the partitioning of energy in ruminants. 4
b) What is inert protein? Write down its role in high yielding dairy cows. 4
6. a) Write down the components of cell contents and cell wall constituents. 4
b) Calculate the DCP value of a feed with the following data: 4
Feed offered 18 kg (DM 20%, CP 10%), feed refused 4 kg (DM 25%, CP 9%), faeces voided 5 kg (DM 30%, CP 3%).

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Semester Final Examination (January-June 2016)

Course Title: Feed Milling, Operation, Processing and Evaluation (Theory)

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

Figures in the right margin indicate full marks. Answer any four (4) questions. All questions must be answered chronologically!

1. Describe the factors to be considered while selecting a pellet mill for a modern feed mill. Write down the tips on selection of pellet mill. 10.0
2. What are the matters which operators shall pay attention for running a pellet plant? Briefly discuss the maintenance of pellet mill equipments. 10.0
3. Write down the sequential steps of pellet feed manufacturing process with specific objectives and importance of each step. What type of grinder should be chosen for grinding full fat soybean and why? Write down the basic difference in manufacturing process of compacted pellet and floating pellet. 10.0
4. Write down the methods of feed ingredient evaluation. Briefly discuss basic evaluation of feed ingredients without using sophisticated equipments and chemicals just before unloading in feed mill. 10.0
5. Briefly discuss different types of conveyors used in feed manufacturing with their advantages and disadvantages. Write down the standard grain storage procedure in modern feed mills. 10.0