Department of Animal Science and Nutrition
Chittagong Veterinary and Animal Sciences University
MS in Animal Science
Semester Final Examination (Jan-June 2014)

Course Title: Large Ruminant Production System (Theory)

Course code: LRP-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. Fragmented answers will not be taken into consideration.

1. Why small scale sustainable dairy farms are dominant in developing countries? Discuss the prospects for development of large scale commercial dairy industry in Bangladesh. 10.0

2. Briefly discuss the methods for producing high quality dairy animals under Bangladesh perspective. How should you attempt to improve the reproductive efficiency of dairy cows by enhancing their management systems? 10.0

3. Briefly discuss how neonatal care influence reducing calf mortality in commercial dairy herds. Discuss the role of age at first calving and calving interval on subsequent calf mortality in dairy farms. 10.0

4. Discuss the prospects of buffalo in Bangladesh. Why buffalo populations are decreasing in Bangladesh? How should you manage draft buffaloes in extreme hot humid weather? 10.0

5. How should you proceed to improve the sustainable productivity in large ruminants? 'Qualitative or quantitative'-what sort of improvement will be environment friendly for large ruminants under Bangladesh perspective. 10.0

Chittagong Veterinary and Animal Sciences University

Department of animal Science and Animal Nutrition

MS in Animal and Poultry Nutrition, Final Examination

January-June Semester, 2014

Course Title: Feed Processing and Evaluation

Course Code: FPE-601

Total Marks :40 Time: 2 hours

Figures in the right margin indicate full marks.
Answer any 4 (Four) questions from the following.

1. Briefly discuss the feed manufacturing process in a modern feed mill. 10.0

2. (a) Write down the role of nutritionist in a feed mill. 3.0

   (b) How you are planning to setup a feed milling industry? 7.0

3. Write down the methods of assessing energy and protein of poultry feed. 10.0

4. Briefly discuss the preservation of green grass. 10.0

5. Write short notes on. 4×2.5=10.0

   (a) Conveying from material.

   (b) UMMB.

   (c) Measure of nutritive value of feed ingredients.

   (d) UMS

Department of Animal Science and Nutrition
Chittagong Veterinary and Animal Sciences University
MS in Animal and Poultry Nutrition
Semester Final Examination (Jan-June 2014)
Course Title: Feed Biotechnology (Theory)
Course code: FBT-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. Fragmented answers will not be taken into consideration.

1.	Give a precise description of the innovative fields of Feed Biotechnology and discuss their applications in relation with Animal Science under Bangladesh perspective.	10.0
2.	Discuss the mode of action, strategy for application and production procedure of probiotics, prebiotics, toxin binders, mold inhibitors and pellet binders.	10.0
3.	List the important molecular techniques used in Animal Science. Discuss the fundamental role of molecular techniques and their possible applications in feed biotechnology.	10.0
4.	Discuss the prospects and potentials of GM foods in developing countries. Discuss the lethal effects of animal origin GM foods in animal and human body?	10.0
5.	What are virtual uses of medicinal plants in feed biotechnology? Briefly discuss medicinal plant feed biotechnology.	10.0

Department of Animal Science & Nutrition
Chittagong Veterinary and Animal Sciences University
MS in Animal and Poultry Nutrition Final Examination
January to June Semester 2014
Subject: **Therapeutic Nutrition (TPN-601)**
Total Marks: 40, Time: 2 hours

Figures in the right margin indicate full marks. Answer any **FIVE** from the following questions. Fragmented answers will not be taken into consideration. 5 x 8 = 40

1. a) What malnutrition? How could you evaluate malnutrition? 5
   b) Discuss about causes and remedies of malnutrition. 3

2. a) You have a dairy herd of 10 milch cows which requires about 60 kg DM from feed per day. You are offering all the required DM by a concentrate based ration. What would be the problem? Discuss. 5
   b) Discuss briefly about ketone bodies. 3

3. a) Discuss the problem with remedies when a herd is being offer low and high fat diet. 5
   b) What do you know about metabolic disorder? Discuss its preventive measures. 3

4. a) Discuss about a therapeutic diet for a cow when it is suffered from kidney related problem. 5
   b) Write short notes on: diet, therapeutic diet, balanced diet. 3

5. a) Discuss the role of minerals in metabolism. 5
   b) How could differentiate between metabolism and impaired metabolism? 3

6. a) Discuss gluconeogenesis. Write down the importance of Cori cycle in animal body. 5
   b) Discuss about the balanced ration for a lactating pregnant cow. 3

Department of Animal Science and Nutrition
Chittagong Veterinary and Animal Sciences University
MS in Animal and Poultry Nutrition Final Examination
January to June Semester 2014
Subject: **Nutrition Studies and Research (NSR-601)**
Full Marks: 40, Time: 2 hours

Figures in the right margin indicate full marks. Answer any **FIVE** from the following questions.
Fragmented answers will not be taken into consideration. 5 x 8 = 40

1. a) How does medicated UMB control internal parasites of cattle? 3
   b) What is pasture? How could you measure feed intake of animal at pasture level along with the grazing animals? 5

2. a) A grass contains 9% CP as fresh basis. The DM content of that grass is 35%. Calculate the CP% of that grass as DM basis. 3
   b) Define TDN with its equation. How digestion trial is differed from metabolism trial? 5

3. a) Write short notes on NPN utilization by ruminant. 3
   b) Define UDP and RDP? How UDP is utilized by ruminant? 5

4. a) Discuss about the balanced ration for a lactating pregnant cow. 3
   b) Formulate a balanced ration for a dairy cow of 300 kgs body weight with 10 litres milk production daily (Use the locally available ingredients). 5

5. a) Write short notes of Van Soest method of fiber analysis. 3
   b) Discuss the role of rumen microbes in fiber fermentation. 5

6. a) Define digestibility with factors that affect it. 3
   b) Calculate the DCP value for a cattle with the following information:
   Feed offered - 15 kg (DM - 40%, CP - 9%), feed left over 3 kg (DM - 45%, CP - 9%), faeces voided 6 kg (DM - 35%, CP - 2%). 5

Department of Animal Science and Nutrition
Chittagong Veterinary and Animal Sciences University
MS in Animal and Poultry Nutrition
Semester Final Examination (Jan-June 2014)

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. All questions must be answered chronologically. Fragmented answers will not be taken into consideration.

1. Discuss the principle of Near Infrared Reflectance Spectroscopy (NIRS). Is it really a breakthrough over traditional wet chemistry? What are the drawbacks of NIRS compared to Weende system? 10.0

2. Despite NIRS and other conventional spectrophotometric techniques, why has atomic absorption spectroscopy (AAS) been evolved in the field of feed science? What are the principle, merits and demerits of AAS? 10.0

3. How would you attempt to estimate *in vitro* organic matter degradability (IVOMD) of mustard oil cake by Menke's gas technique? What are the possible risk factors for failure of gas production in the glass piston? 10.0

4. 'Nylon/Dacron bag technique'- what sort of technique is it, *in vivo, in vitro, in sacco* or *in situ*? Discuss the merits and demerits of *in sacco* technique in the field of ruminant research? 10.0

5. Despite availability of research animal and metabolism crates, is it a holistic approach to attempt for *in vitro* digestibility technique? What cautions would you adopt to simulate reality *in vitro* techniques? 10.0

6. What is respiration calorimetry? What are the implication, merit and demerit of respiration calorimetry? Why NE is mostly ignored for feeding cattle in developing countries? 10.0

Chittagong Veterinary & Animal Sciences University
M.S in Animal Science Jan-June, Semester' 2014
Sub: Small Ruminant Production
Course Code: SRP
Total Marks: 40
Time : 2 (Two) hrs

Figures in the right margin show the marks. Answer any 4 questions including Qu. no. 1 as Compulsory

1. (a) State the population of sheep and goat in Bangladesh - 2.0
(b) State the importance of goat husbandry with special emphasis to its contribution to meat production in the tropics. - 2.0
(c) [redacted] Describe the role of ONBS in enhancing the goat improvement in Bangladesh. - 6.0

2. (a) What are the common climatic factors that affect the sheep production in the tropics? Explain them. - 4.0
(b) State the effects of humid climate on the growth and development of sheep. - 4.0
(c) Enumerate the common diseases that are commonly found in sheep in the regions ~~of~~ with humid climate - 2.0

3. (a) Write a note on breeding efficiency of goat in Bangladesh. - 4.0
(b) State the common parameters used in assessing the breeding efficiency of goat. - 4.0
(c) Why "cloud burst" is not found in goats of tropics? - 2.0

4. (a) What do you mean by "cloning"? — 2.0
(b) Write a note on "sheep-goat" Chimera. — 8.0

5. (a) What are the different feeding standards used in providing nutrition of sheep & goat? — 2.0
(b) State the requirements of nutrition in terms of TDN for goat? — 4.0
(c) State the common nutritional diseases of goat with a note on "Kwashiorkor". — 4.0

6. Write shortnotes on any four 4X2.5 = 10.0
(a) Wild ancestors of sheep (b) Intensive goat farming, (c) factors affecting milk yield in goat, (d) Growth estimation in ~~sheep~~, ~~(e)~~
(e) Dumbd husbandry, (f) Characteristics of estrus in doe

07/05/2014

Department of Animal Science and Nutrition
Chittagong Veterinary and Animal Sciences University
MS in Animal Science Final Examination
January to June Semester 2014
Subject: **Livestock Farming and Climate Change (LFC-601)**
Full Marks: 40, Time: 2 hours

Figures in the right margin indicate full marks. Answer any **FIVE** from the following questions. Fragmented answers will not be taken into consideration. 5 x 8 = 40

1. Describe the concepts, objectives and constraints of integrated livestock farming. Briefly discuss the effect of integrated livestock farming on climate change. 8

2. What are green house gasses (GHG) produced from livestock farming. Discuss the contribution of ruminant to GHG with their impact on environment with preventive measures. 8

3. Write down the possible sources of methane production in agro-industries. Explain the source of enteric methane production. Does the enteric methane production be altered by changing feeding strategies? Discuss. 8

4. Discuss briefly the meaning, concept and types of disaster. Explain the consequences of disaster with its management cycle.

5. Explain the causes and impacts of global warming. Do you think it's a problem for you created by the developed countries where industrialization is more advanced than developing countries? Justify your opinion. 8

6. How could you integrate livestock with fish and crop farming system to maintain biodiversity? Discuss the impact of integrated crop-livestock-fish farming with socio-economics of farmers. 8

Chittagong Veterinary and Animal Sciences University

M S in Animal Science

January-June Semester Final Examination 2014

Course title: Animal Reproduction

Course Code: ARP-601

Total marks: 40

Time: 2 hour

Answer any 2 (two) questions from the following. Values are indicated in the right margin in each question.

1. a) What do you mean by the term "reproductive cycle"? Discuss the reproductive pattern of cow. **6**
   b) State fertility. Mention the factors those affects on fertility. **4**
   c) Write in brief that how will you analyse the fertility of a dairy herd. **10**

2. a) Distinguish between artificial insemination and MOET. **2**
   b) Write in brief the procedure of MOET with its impact on animal improvement. **12**
   c) Discuss the impact of AI and genetic engineering on genetic gain of a trait. **6**

3. a) What is useful life? How will you estimate the nutrition requirement of a 3 years old bull having 600 kg live weight and produce 10ml semen per ejaculation. The bull is using 2 times per week for semen collection. Provide a balance ration for this bull. **12**
   b) Write down the functions of hormones those are involved in estrus and pregnancy. **4**
   c) List the parts male reproductive organ of a buck and mention their major functions. **4**

Chittagong Veterinary and Animal Sciences University

Department of Animal Science & Nutrition

Semester Final Exam of MS in Animal Nutrition (January-June/2014)

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

Full Marks: 40 Time: 2 hours

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

1.	a. Define split-plot design. What are the advantages of split-plot design over randomized block design?	3
	b. How to analyze the 2^2 factorial experiment design by Yate's algorithm?	3
	c. Suppose you are trying to prepare 3 types of diet for 3 goats to observe weight gain. Construct a cross-over design in this regard.	2
2	a. Define non-parametric test. For investigation of effect of four types of enzyme on weight gain, mention appropriate test to see whether the mean weight gain is different or not for different types of enzyme.	3
	b. Write down the conducting steps of Friedman test.	3
	c. Give an example of sign test for one sample.	2
3	a. Define life table. Write down the uses of life table.	3
	b. What is death rate?	1
	c. Describe the different columns of complete life table.	4
4	a. What do you mean by non-sampling error? List the sources of non-sampling error.	3
	b. Define multi-stage sampling with example. Write down the advantages of this design.	3
	c. How to estimate sample mean of cluster sampling?	2
5	a. Define vital statistics. Describe the methods of obtaining vital statistics.	3
	b. In what situation we can apply non-parametric test?	2
	c. Write down the advantages of cross-over design.	3
6	Write short notes on (any two):	2x4=8
	a. Stratified random sampling, b. Wilcoxon signed rank test and c. Factorial design	

Chittagong Veterinary and Animal Sciences University

Department of Animal Science & Nutrition

Semester Final Exam of MS in Animal Science (January-June/2014)

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

Full Marks: 40 Time: 2 hours

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

<table>
<tr><td>1.</td><td>a. Define cross-over design. What are the advantages of cross-over design over two parallel treatment design?</td><td>3</td></tr>
<tr><td></td><td>b. Describe the analysis of 2*3 asymmetrical factorial design.</td><td>3</td></tr>
<tr><td></td><td>c. Write down the3 treatment sequence cross-over design in 3 rabbits.</td><td>2</td></tr>
<tr><td>2</td><td>a. What is the reason behind the application of non-parametric test? List the advantages of non-parametric test.</td><td>3</td></tr>
<tr><td></td><td>b. Write down the steps of conducting wilcoxon rank sum test for one sample.</td><td>3</td></tr>
<tr><td></td><td>c. Give an example of kruskal wallis test.</td><td>2</td></tr>
<tr><td>3</td><td>a. Define life table. Write down the assumptions of life table.</td><td>3</td></tr>
<tr><td></td><td>b. Define fecundity and mortality.</td><td>2</td></tr>
<tr><td></td><td>c. Given the following table for l_x, the number of rabbits living at age x, complete the life table.
<table>
<tr><th>Age x</th><th>l_x</th><th>d_x</th><th>q_x</th><th>p_x</th><th>L_x</th><th>e_x^0</th></tr>
<tr><td>20</td><td>693435</td><td>?</td><td>?</td><td>?</td><td>?</td><td>35081126</td></tr>
<tr><td>21</td><td>690673</td><td>-</td><td></td><td></td><td></td><td>?</td></tr>
</table></td><td>4</td></tr>
<tr><td>4</td><td>a. What do you mean by sampling error? Enlist the sources of sampling error.</td><td>3</td></tr>
<tr><td></td><td>b. Define cluster sampling with example. Write down the advantages of this design.</td><td>3</td></tr>
<tr><td></td><td>c. How to estimate sample mean of cluster sampling?</td><td>2</td></tr>
<tr><td>5</td><td>a. Define vital statistics. How can you get the vital statistics?</td><td>3</td></tr>
<tr><td></td><td>b. What are the disadvantages of non-parametric test?</td><td>2</td></tr>
<tr><td></td><td>c. Write down the advantages of factorial design.</td><td>3</td></tr>
<tr><td>6</td><td>Write short notes on (any two):</td><td>2x4=8</td></tr>
<tr><td></td><td>a. Stratified random sampling, b. Wilcoxon signed rank test and c. Split-plot design</td><td></td></tr>
</table>

Chittagong Veterinary and Animal Sciences University

Department of animal Science and Animal Nutrition

MS in Animal Science, Final Examination

January-June Semester, 2014

Course Title: Feed Processing and Evaluation

Course Code: FPE-601

Total Marks :40 Time: 2 hours

Figures in the right margin indicate full marks.

Answer any 4 (Four) questions from the following.

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2. (a) Write down the role of nutritionist in a feed mill. 3.0

   (b) How you are planning to setup a feed milling industry? 7.0

3. Write down the methods of assessing energy and protein of poultry feed. 10.0

4. Briefly discuss the preservation of green grass. 10.0

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   (a) Conveying from material.

   (b) UMMB.

   (c) Measure of nutritive value of feed ingredients.

   (d) UMS