Chittagong Veterinary and Animal Sciences University

M S in Animal Science

January-June Semester Final Examination 2018

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) Draw and lebel the male reproductive organ of a buck. Discuss the reproductive pattern of cow. **5**
   b) State the term "fertility". Write in brief that how will you analyse the fertility of a dairy herd. **8**
   c) What is sex selection? How will you select sex from sperm and embryo? Describe any one method of sex selection with its limitations. **7**

2. a) Write the differential features of artificial insemination and MOET. **2**
   b) Write in brief the procedure of MOET with its impact on animal improvement for meat production. **10**
   c) Discuss the impact of AI and genetic engineering on genetic gain of a trait (milk yield) of cow. **8**

3. a) What is IVF? State the procedure of IVF with is application in animal industry. **7**
   b) What is gene therapy? Write down the procedure of gene therapy for control the genetic diseases. **8**
   c) Indicates the function(s) of hormones those are involved in estrus and pregnancy. **4**

M.S. in Animal Science Final Examination

January to June Semester 2018

Sub: Feed Processing and Evaluation

Course Code: FPE-601

Full Marks: 40; Time: 2 Hours

Answer **any four** questions from the following. Figure in the right margin indicate full marks.

1. a) Write down the procedure of feed raw material selection. 5
   b) Mention about the preservation technique of feed ingredient. 5

2. a) Describe about the hammer mill with their maintenance. 5
   b) Write down the procedure of mixing oil and premix in pellet feed plant. 5

3. a) Describe about the various types of conveying system. 5
   b) Mention the coating procedure of feed additives. 5

4. a) Mention about the wet straw and green grass preservation system. 5
   b) Describe the UMS, UTS and UMMB preparation procedure. 5

5. a) Describe about the methods of digestibility estimation of feed. 5
   b) Write down the nutritive value determination system of feed. 5

Chittagong Veterinary and Animal Sciences University
Department of Animal Science & Nutrition

MS in Animal Science

Semester Final Examination 2018 (January-June 2018)
Subject: Large Ruminant Production System
Course code: LRP-601
Total marks: 40; Total time: 2 hours

Answer to the following questions (any four):

1.	a)	Shortly describe the prospects, potentials and constraint of dairy industry in Bangladesh.	5.0
	b)	Write down the importance and methods of animal transportation in Bangladesh. How can you reduce the stress of animal during transportation?	5.0
2.	a)	Differentiate between inbreeding and line breeding. Write down the advantages of upgrading method.	5.0
	b)	Suppose you have a 50 cow's dairy herd. Give a layout for the breeding policy to increase milk production by reducing inbreeding depression.	5.0
3.	a)	Define inbreeding, line breeding, crossbreeding and upgrading. Discuss about the method of grading up for livestock development.	5.0
	b)	Mention the traits of economic importance for dairy cattle. Write down the importance and methods of estimation of heritability and repeatability.	5.0
4.	a)	Shortly describe about the care and management before and after parturition of dairy cattle and buffalo.	5.0
	b)	State briefly about the rules and regulations regarding livestock products.	5.0
5.		Classify feeds and fodder. Compute a ration for 400 kg body weight and 8 Litres milk /day from available feeds and fodder resources. Ingredient: Roadsidegrass, german grass, hay,rice straw,rice polish,broken rice,mustard oil cake,til oil cake,salt,vitamin mineral premix.	10.0

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Department of Animal Science and Nutrition
Chittagong Veterinary and Animal Sciences University
MS in Animal Science
Semester Final Examination (January-June' 2018)

Course Title: Small Ruminant Production (Theory)

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

*(Figures in the right margin indicate full marks. Answer any four (4) questions of the following. **All questions must be answered chronologically**. Split answers are discouraged)*

1.	(a) Briefly describe the reproductive physiology of ewe with function of different organs.	5.0
	(b) How can you control the reproductive performance of sheep by management?	5.0
2.	(a) Give a detail idea on the tethering system of rearing goat. Why stilted house with slatted floor is recommended for goat?	5.0
	(b) Design a sheep farm with space requirement in different sections.	5.0
3.	(a) Discuss Shortly about the potentials, constraints of rearing goat in Bangladesh.	4.0
	(b) Mention the feeding behavior of sheep and goat with their nutrient requirements. How can you measure the efficiency of feed utilization of these two animals?	6.0
4.	(a) Write a short note on "Sheep-goat Chimera".	4.0
	(b) Give a clear concept on the methods, merits and demerits of multispecies grazing. In which way feeding is managed in this system?	6.0
5.	(a) Describe about the Mastitis control programs in a dairy goat farm for reduction of Somatic Cell Count.	3.0
	(b) Shortly discuss the factors affecting composition and yield of milk. Represent graphically the "Lactation curves" of goat with relation to parity.	7.0

Department of Animal Science & Nutrition

MS in Animal Science

Semester Final Examination 2018

Semester: January-June 2018

Subject: Livestock Farming and Climate Change

Course code: LFC-601

Total marks: 40 **Total time: 2 hours**

Figures in the right margin indicate full marks. Answer to the following questions **(any four)**:

1.	a)	What do you mean by integrated farming system? Write down the importance, components and challenges of integrated farming system.	5.0
	b)	Describe about the determining factors of different integrated farming system.	5.0
2.	a)	What do you mean by green house gas emission and it's impact on civilized world? Shortly describe about the emissions by different species of animal.	5.0
	b)	Describe briefly about the mitigation strategies of green house gas emission particularly from ruminant animals.	5.0
3.	a)	Define disaster with their classification. What measures will you recommend for livestock before, during and after natural catastrophes?	5.0
	b)	State the regulatory and institutions framework of disease management system in Bangladesh.	5.0
4.	a)	Shortly describe about the effect of climate change on livestock and its productivity.	5.0
	b)	State on your words about the adaptation strategies for livestock for climate change.	5.0
5.	c)	Suggest possible feeding technologies to mitigate impact of disaster on livestock.	5.0
	a)	What measures need to be taken to prevent epidemics and diseases before and after a disaster?	5.0

-----The end-----

Chittagong Veterinary and Animal Sciences University
Department of Animal Science and Nutrition
MS in Animal and Poultry Nutrition
Semester Final Examination (January-June) 2018
Subject: Nutrition Studies and Research
Course Code: NSR-601

Total Marks: 40 **Total Time: 2 hours**

Answer to the following questions **(any four)**:

1. a) Describe techniques for estimating nutrition intake by grazing animal. 5.0
   b) State the process of determination of herbage intake by grazing animals. 5.0
2. a) Define digestibility. Shortly describe about the conventional method of digestibility. Briefly describe the steps of *in vitro* technique of digestibility measurement. 5.0
   b) Differentiate between Nylon bag and Menke's gas production techniques. 5.0
3. a) What do mean by identification and prioritization of research? Give an example of a research layout that you are intended to start soon. 5.0
   b) Write down the methods of data collection and interpretation of a set research. 5.0
4. a) Illustrate the flow diagram for the production of microbial protein in the rumen. Write down features of different VFAs in the rumen. 5.0
   b) Shortly describe about the methods of estimating microbial protein synthesis in the rumen by colorimetric technique. 5.0
5. a) How can you estimate the VFAs in the rumen? Graphically represent the VFAs production using different feed ingredients in rumen. 5.0
   b) Define cannula and cannulated animal with their functions. Explain different types of cannula and their application. 5.0

-----The end-----

Chittagong Veterinary and Animal Sciences University

Department of Animal Sciences and Nutrition

M.S. in Animal and Poultry Nutrition Final Examination

January to June Semester 2018

Sub: Feed Processing and Evaluation

Course Code: FPE-601

Full Marks: 40; Time: 2 Hours

Answer **any four** questions from the following. Figure in the right margin indicate full marks.

1.	a) Write down the procedure of feed raw material selection.	5
	b) Mention about the preservation technique of feed ingredient.	5
2.	a) Describe about the hammer mill with their maintenance.	5
	b) Write down the procedure of mixing oil and premix in pellet feed plant.	5
3.	a) Describe about the various types of conveying system.	5
	b) Mention the coating procedure of feed additives.	5
4.	a) Mention about the wet straw and green grass preservation system.	5
	b) Describe the UMS, UTS and UMMB preparation procedure.	5
5.	a) Describe about the methods of digestibility estimation of feed.	5
	b) Write down the nutritive value determination system of feed.	5

Department of Animal Science and Nutrition
Chittagong Veterinary and Animal Sciences University
MS in Animal and Poultry Nutrition
Semester Final Examination (January-June' 2018)
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) of the following questions. **All questions must be answered chronologically**)*

1. (a) Give an idea in detail about the conditions of rumen for impaired metabolism in ruminants. 5.0
   (b) Briefly describe the etiology, pathogenesis, clinical signs of pregnancy toxaemia. Give a line of treatment with special emphasis on therapeutic diet for the affected sheep. 5.0

2. (a) Elaborate the common nutritional strategies to prevent metabolic disease incidence in animals. 5.0
   (b) Suppose you have been appointed as a veterinary surgeon in an upazila veterinary hospital (UVH). A sick dairy cow has been taken to your hospital with a history of recent calving, recumbency and weakness. Diagnose the case and provide a line of treatment. 5.0

3. (a) Sketch the diagram of energy partitioning in animal body. 4.0
   (b) Elaborate the methods of measuring the digestibility of feed. 6.0

4. (a) Mention the sequence of events occurs during malnutrition. 3.0
   (b) "Strategy in feeding poultry is quiet different under tropical climate condition" explain the facts from your own point of view. 7.0

5. (a) Which facts do you consider while performing compton metabolic profile test? 4.0
   (b) Mention the general principles to be followed while formulating critical care diet. Shortly describe about the enteral feeding access devices. 6.0

Chittagong Veterinary and Animal Sciences University
Department of Animal Sciences and Nutrition
M.S. in Animal and Poultry Nutrition Final Examination
January to June Semester 2018
Sub: Feed Biotechnology
Course Code: FBT-601
Full Marks: 40; Time: 2 Hours

Answer **any four** questions from the following. Figure in the right margin indicate full marks.

1. a) What do you mean by feed biotechnology? Describe about the scope of feed biotechnology in livestock production. 5
   b) Mention about the molecular technique used in feed biotechnology. 5

2. a) What is proteain concentrate? Mention the composition of protein concentrate. 5
   b) Describe about the production procedure of protein concentrate. 5

3. a) Write down one brand name of vitamin mineral premix with composition. 5
   b) Describe about the production procedure of vitamin mineral premix. 5

4. a) Define probiotic, prebiotic, enzyme, toxin binder and pellet binder. 5
   b) Describe the production procedure of probiotic. 5

5. a) What do you know about the nutritional plant available in Bangladesh. 5
   b) Describe about the five nutritional plant with their functions. 5

Department of Animal Science and Nutrition
Chittagong Veterinary and Animal Sciences University
MS in Animal and Poultry Nutrition
Semester Final Examination (January-June' 2018)

Course Title: Modern Techniques in Nutrition Studies (Theory)

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

(Answer any four (4) questions of the following. Each question carries the same value (10×4 =4). ***All questions must be answered chronologically.*** *Split answers are discouraged)*

1. "High-performance liquid chromatography is an excellent method of separating organic components"- describe this fact by giving relevant example. Give a detail idea on the working principles of Gas-liquid chromatography. How does it differ from High-performance liquid chromatography?

2. What do you mean by "Calorific value" and "Calorimetry"? Shortly discuss the principles of measuring energy content of feed by bomb calorimeter. Suppose, a 3.51 g sample of benzene, C_6H_6, was burned in a bomb calorimeter in an excess of oxygen. The initial temperature was 25.00°C and rose to 37.18°C. The heat capacity of the calorimeter and contents was 12.05 kJ/°C. Find q (heat given off) for the combustion of 1 mol of benzene.

3. Mention the ingredients used as stationary phase and mobile phase in Thin layer chromatography (TLC). Note down its advantages and disadvantages. Briefly describe the methodology followed in TLC.

4. State the definition of Spectrophotometry with its types. How does a Spectrophotometer work? Describe shortly about the functions and applications of a Spectrophotometer.

5. Briefly describe about the specific technology of analyzing different metals with its instrumentation. Make a clear concept on the mechanism of light absorption by feedstuff in Near Infra Red Spectroscopy (NIRS).

January to June Semester,2018 Final Examination
Department of Animal Science & Nutrition
MS in Animal & Poultry 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)Define Simple Correlation Coefficient with an example.What is Rank Correlation? 5

b) A study was made to determine the relation between weekly advertising expenditure and sales of a drug in your field and the data recorded are: 5

Expenditure (in tk)	40	20	25	20	30	50	40	20	50
Sales (in tk)	385	400	395	365	475	440	490	420	560

Fit the regression line to predict weekly sales on advertising expenditures. Also find the value of sales when advertising expenditure is 45tk.

2. a)What is power of a test and confidence coefficient? 4

b) A medicine company claims that there is no relationship between beef consumption and suffering from Heart disease of the employees of a farm. A random sample of 250 employees was taken for the study. 6
Here is the data:

	Found Disease	No Disease
Consumer	50	100
Non consumer	25	75

From the above data can it be concluded that having beef leads to suffering from heart disease? Use 5% level of significance.

3. a)What are the basis principles of experimental design/ Explain 4

b) Define RBD with a practical example in your field and identify treatment, block, experimental unit and yield in that example.Compare between CRD and RBD. 6

4. a)Define Chi square. Derive the formula to test a the difference between two population means in case of small samples when sample size is small. 5

b)Given a sample of 50 cows with an arithmetic mean for lactation milk yield of 3600 kg. Does this herd is less than a population with a mean of 3500 kg and standard deviation of 500 kg? (Use 5% level of significance). 5

5. a)Define Rank Correlation with an example. When it will be -1 and +1? 4

b)The marks of 5 students(out of 20) in Biostatistics and Histology are: 6

B	13	14	15	12	11
H	14	12	12	11	15

Compute Rank Correlation.

Department of Animal Science & Nutrition

MS in Animal Science

Semester Final Examination 2018

Semester: January-June 2018

Subject: Livestock Farming and Climate Change

Course code: LFC-601

Total marks: 40 **Total time: 2 hours**

Figures in the right margin indicate full marks. Answer to the following questions **(any four)**:

1.	a)	What do you mean by integrated farming system? Write down the importance, components and challenges of integrated farming system.	5.0
	b)	Describe about the determining factors of different integrated farming system.	5.0
2.	a)	What do you mean by green house gas emission and it's impact on civilized world? Shortly describe about the emissions by different species of animal.	5.0
	b)	Describe briefly about the mitigation strategies of green house gas emission particularly from ruminant animals.	5.0
3.	a)	Define disaster with their classification. What measures will you recommend for livestock before, during and after natural catastrophes?	5.0
	b)	State the regulatory and institutions framework of disease management system in Bangladesh.	5.0
4.	a)	Shortly describe about the effect of climate change on livestock and its productivity.	5.0
	b)	State on your words about the adaptation strategies for livestock for climate change.	5.0
5.	c)	Suggest possible feeding technologies to mitigate impact of disaster on livestock.	5.0
	a)	What measures need to be taken to prevent epidemics and diseases before and after a disaster?	5.0

-----The end-----