Chittagong Veterinary and Animal Sciences University
M S January – June Semester Final Examination – 2015
MS in Dairy Science
Course title: Dairy Chemistry (theory)
Course Code: DCH – 601

Time: 2 hours Total marks: 40

Answer any four (4) of the following questions **4X10=40**

1. a) Define Dairy Chemistry. State the chemical structure of milk. 2
b) Tabulate the vitamin and mineral contents of milk. 4
c) State the detail composition of milk in a diagram. 4

2. a) Define lactose. State the nutritive value of lactose. **4**
b) Briefly describe the biosynthesis of lactose. **4**
c) What is the fate of lactose during yoghurt preparation? **2**

3. a) What is the mechanism of di-acetyl formation during preparation of aromatic dairy products? 4
b) What is enzyme? Enumerate the enzymes present in milk with specific functions. 6

4. a) What is lipid? Classify milk lipids with example. 2
b) Draw the chemical structure of milk fats. 4
c) Briefly describe the biosynthesis process of milk fat. 4

5. a) What is protein? Classify milk proteins. 2
b) Enumerate the role of casein in coagulum based dairy products. 4
c) Draw the chemical structure of casein. 4

Chittagong Veterinary and Animal Sciences University
MS January-June Semester Final Exam.-2015
M S in Dairy Science
Course Title: Functional Dairy Ingredients (Theory)
Course Code: FDI-601
Full Marks: 40, Time: 2 Hours

(Figures in the right margin indicate full marks. Answer any **FOUR** questions of which question number **1 is compulsory**)

1. (a) What is functional dairy food? Briefly describe the history of functional food. 2
   (b) What are the potential health benefits of milk and milk products? 4
   (c) Make a list of bioactive components which found in milk and milk products. 2
   (d) Write down the commercial application of bioactive peptides of casein. 2

2. (a) Define Probiotics, Prebiotics and Symbiotic with example. 3
   (b) What is the mode of action of antimicrobial compound produced by LAB? 4
   (c) What are the physiological benefits of functional dairy foods containing probiotic bacteria? 3

3. (a) How milk maintain the energy balance for sportsman? 2
   (b) Enumerate the functions of different fatty acids found in milk fat. 5
   (c) How milk protein reduces the risk of cardiovascular disease? Briefly describe. 3

4. (a) What are the immunomodulatory peptides derived from casein and whey proteins? 2
   (b) State the role of peptides derived from casein and whey proteins as an antimicrobial? 3
   (c) State the role of peptides in gut microbiota growth stimulation and gut homeostasis? 3
   (d) Write down the commercial application of bioactive peptides of casein. 2

5. (a) Enumerate the legislations and relevant regulations situation regarding health claims and functional foods. 2
   (b) Briefly described about the disease reduction risk FOSHU and foods with nutrient function claims. 5
   (c) Briefly describe the claims and labeling by US food and drug administration. 3

6. Write short notes (**any 4**) on: 2.5 x 4 10
   a) Dairy product's concerns and challenges
   b) Bovine colostrum use in human health
   c) Dairy fat: perceptions and realities
   d) Effects of probiotics on pathogenic bacteria
   e) Probiotic based functional foods

Chittagong Veterinary and Animal Sciences University

M.S. in Dairy Science

January- June Semester/2015

Course: Quality Control of Dairy Products

Course Code: QCD-601

Time: 2(two) hours | Total Marks: 40

Answer any 4 (four) questions from the following:

1.	a)	What do you mean by quality control and quality assurance?	3
	b)	Mention the BDS of market milk, ghee, butter, ice-cream and powdered milk.	5
	c)	Mention the judging score card of market milk, butter, ice-cream and cheese.	2
2.	a)	What do you mean by standardization?	2
	b)	How much cream testing 35% fat must be added to 500kg of milk testing 4% fat to obtain coffee cream testing 20% fat?	4
	c)	How much skim milk containing 0.5% fat must be added to 750 kg milk containing 5.5% fat to obtain milk containing 3.5% fat?	4
3.	a)	List the dairy wastes at factory and farm level?	2
	b)	Write down the effects of dairy waste on the receiving streams or sewers.	3
	c)	Briefly explain the biological treatment of dairy waste water.	5
4.	a)	How will you determine the salt content in butter?	5
	b)	How will you make sure that milk has been properly pasteurized? -Explain the procedure.	5
5.	a)	Write the sampling procedure of butter from retail pack and bulk sources.	5
	b)	How will you differentiate the natural and synthetic milk?	5

January to June Semester,2015 Final Examination
Department of Dairy and Poultry Science
MS in Dairy Science
Chittagong Veterinary and animal Sciences University
Course Title: Advanced Biostatistics (Theory)
Course Title: BST-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. Write some properties of 'r'. 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

Draw a Scatter Diagram and fit the regression line to predict weekly sales from advertising expenditures.

2. a) What are the principles of experimental design? 3
   b) feeding trail with 3 feeds was conducted to a certain variety of Lambs with same age,body weight, sex etc are selected. 37 lambs were selected for that purpose. The weight records of the total wool yields (in kg) were obtained 7

Feeds		
50.5	63.9	59.1
53.6	52.0	71.3
78.8	78.8	69.1
65.4	67.0	55.3
80.4	80.4	61.9
95.3	67.3	63.5
50.5	53.6	76.1
52.5	59.1	59.5
80.6		62.3
75.2		

Is there any effect of feeds on wool yield?

3. a) Define treatment, block, experimental unit and yield with an example each. 5

   b) Define RBD with a practical example in your field. Compare between CRD and RBD. When CRD will turn into RBD? 5

4. a) Derive the formula to test the difference between two population means in case of large samples 5

   b) Two groups of goats were fed two different feeds to determine the increase in body weight. At the end of the experiment the body weights were calculated. The mean and variance are given below: 5

	Feed A	Feed B
Mean	4.8	5.1
Variance	0.21	0.25
size	50	50

Which feed will increase the body weight of goats?

5. a) Define Rank Correlation. When should we use it? 4

   b) The ranks of 5 students in Biostatistics and Histology are: 6

B	3	4	5	2	1
H	4	2	3	1	5

Compute Rank Correlation. In the above data when rank correlation will be +1?

January to June Semester,2015 Final Examination

Department of Dairy and Poultry Science

MS in Dairy Science

Chittagong Veterinary and animal Sciences University

Course Title: Advanced Biostatistics (Theory)

Course Title: BST-601

Full Marks: 40 **Time: 2 hours**

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Chittagong Veterinary and Animal Sciences University

M.S. in Dairy Science

January- June Semester/2015

Course: Quality Control of Dairy Products

Course Code: QCD-601

Time: 2(two) hours | Total Marks: 40

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MS IN DAIRY SCIENCE SEMESTER FINAL EXAM 2015
JANUARY TO JUNE SEMESTER
SUB: DAIRY NUTRITION
FULL MARKS: 40; TIME: 2 HOURS

Answer any four (05) questions from the following. Figures in the right margin indicate full marks.

1. a) What is bypass protein, inert fat and bypass anthalmentic? Are they important to dairy cow? 4
   b) Define dairy feed additives. List some of them with mode of action of any one of them. 4

2. a) What are the modern techniques available to maintain our dairy cattle? Discuss. 4
   b) Write short notes on Calf starter, Milk replacer, Colostrums feeding and digestibility. 4

3. a) What do you mean by digestibility? How true digestibility differs from apparent digestibility? 4
   b) What are the factors that should be considered for formulating a dairy cow ration? 4

4. a) What is bypass protein? Write down the role of bypass protein in a high yielding dairy cow. 4
   b) Discuss the feeding practices in intensive dairy farming in Bangladesh. 4

5. a) Write down the possible ways of urea feeding to a ruminant with a criticism of Urea feeding. 4
   b) What are the constraints on raw milk production in Bangladesh? Write the way to remedy. 4

6. a) What is feeding standard? Discuss different feeding standards available round the world? 4
   b) What are the feeds we are offering to our dairy cattle in Bangladesh? 4

January - June Semester, 2019

Sub: Dairy Technology Theory

Course Code: DTL 601

Total marks: 40

Time : 2 (two) hours

Answer any 5 five questions from the following. Split answers are discouraged.

1. (a) Classify dairy Products according to taste. 2
   (b) State the proportionate use of total milk produced in Bangladesh. 2
   (c) State the common dairy products being produced from whole milk by different brands in Bangladesh. 2
   (d) How can you best transport milk to distant points to use it for preparation of common sweetmeats? 2

2. (a) What are the common benefits of producing salted butter? 2
   (b) State the industrial procedure of manufacturing salted butter. 4
   (c) Enumerate the defects that may be developed in plain butter being kept in shelf for 7 (seven) days and why? 3

3. (a) State the common flavorings used in ice cream manufacture across the globe. Which one of them is of maximum consumer prefrence? 2
   (b) How do the quality of the important ingredients influence quality of icecream? 2
   (c) State the standard procedure of manufacturing fruit ice cream. 4

4. (a) State the effects of cheddaring on preservation and body & texture quality. 4
   (b) State the changes occurred during curing in cheeses. 4

5. (a) Enumerate different types of powdered milk available in the market accross the globe. Write a note on NDM. 4
   (b) State the relative merits and demerits of producing powder milks through different processes. 4

6. (a) State the concepts of evaporated and condensed milks. 4
   (b) State the role of using sugar in condensed milk. 4

7. Write short notes (any 2) 2×4 = 8
   (a) Cholesterols & tryglycerides in dairy products
   (b) Clabbered milk and yoghurt
   (c) Starter cheeses
   (d) Common defects of ghee