

Chattogram Veterinary and Animal Sciences University

Dept. of Dairy and Poultry Science

MS in Dairy Science Final Examination' 2022

January – June Semester

Course: Dairy Technology Course Code: DTL-601

Total Marks: 40 Time: 2 hours

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

1. a) Explain the factors for being higher fat% in skim milk in case of centrifugal separation. 08
b) What are the uses of cream? 02
2. a) What are the methods of salting butter? 02
b) Explain the factors influencing churnability of cream and body of butter. 08
3. a) Discuss the properties of different types of stabilizers used in ice-cream manufacturing. 06
b) What are the different types of vanilla flavour used in ice-cream and how are these extracted/prepared? 04
4. a) Why is homogenization of fat not done in cheese making? 02
b) Discuss in detail the factors affecting rennin action during cheese making. 08
5. a) Show the symbiotic mechanism in terms of activity of bacterial strains used in yoghurt making. 05
b) How will you increase the keeping quality of dahi? 05

Department of dairy and Poultry Science
Chattogram Veterinary and Animal Sciences University
M S January – June Semester Final Examination – 2022
MS in Dairy Science
Course title: Functional Dairy Ingredients (theory)
Course Code: FDI – 601

Time: 2 hours

Total marks: 40

Answer any four (4) of the following questions

4X10=40

1. a) Briefly describe the health benefits of LAB. 5
b) Give a flow chart for galactooligosaccharide manufacture. 5
2. a) Enumerate the legislations and relevant regulations situation regarding health claims and functional foods. 5
b) Enumerate the genomic overview and biological functions of exopolysaccharide biosynthesis in Bifidobacterium spp. 5
3. a) Illustrate the mode of action of milk components against cancer. 5
b) Briefly describe the immune enhancing ability of milk protein. 5
4. a) Illustrate the mechanisms of production of major bioactive peptides from milk peptides. 5
b) A1 vs A2 milk – does it matter? Explain. 5
5. a) Illustrate the immunological properties of some strains of Lactobacillus spp. 5
b) What are the natural antimicrobials present in milk? Briefly discuss their effects. 5

Department of Dairy and Poultry Science
Chattogram Veterinary and Animal Sciences University
M S January – June Semester Final Examination – 2022
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. Split answers are 4X10=40 strongly discouraged.

1. a) Illustrate the mechanism of bi-acetyl formation from fermentation of citric acid. 5
b) Diagrammatically explain the fermentation of lactose to lactic acid. 5
2. a) Write down the detail composition of colostrum (in terms of hours). 5
b) Briefly describe the uses of milk protein. 5
3. a) Briefly describe the preparation of whey proteins. 5
b) Briefly describe the endogenous and exogenous enzymes of milk. 5
4. a) State the most important enzyme of milk, which is related to pasteurization. 5
b) State the principle of cream fat rising. 5
5. a) Describe the chemistry of curd formation during dahi preparation. 5
b) Illustrate the pathway of lactic acid formation from lactose. 5

January to June Semester 2022 Final Examination
Department of Dairy and Poultry Science
MS in Dairy Science
Chattogram Veterinary and animal Sciences University
Course Title: Advanced Biostatistics
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) A study was conducted by Billah et al. (2013) to find the problems faced by farmers' regarding the rearing of animals under different farm categories. The data is as follows: 6

Village	Problems	Farm Category	
		Marginal	Small
Parakochua	Disease	12	6
	Inadequate supply of vaccine and medicine	10	5
	Shortage of feed	10	4
	Predator	6	3
	Lack of housing facilities	8	2

Is there any association between the problems faced by farmers and the farm category at 5% level of significance?

- b) Explain Type I and Type II errors in hypothesis. 4
2. a) Outline the formula to test a population mean with a value of 42.5 in case of known population variance 4
- b) A study conducted by Ramsay et al. (2017) found the minimum calf age (in days) and minimum average daily weight gains (in pounds) as follows: 6

Min calf age	148	152	146	149	159	156	154	150	139	133
Min average daily weight gain	2.1	2.2	1.8	1.6	1.7	1.9	2.0	2.1	1.7	1.7

Fit a regression line of age on average daily weight gain. Comment on the slope of the line.

3. a) A study conducted by Amin et al. (2020) claimed that the mean lactation milk yield of cows in Sirajgonj is 5.3 Litres. A researcher believe that the mean lactation milk yield is different from 5.3 Litres. To test his belief, the researcher randomly sampled 20 cows and found the mean of 4.9 Litres with a SD of 1.2 Litres. Can the researcher conclude at 5% level of significance that the mean yield is different from 5.3 Litres? Use 5% level of significance. 5
- b) How would you build the hypothesis if you are asked to test if the mean yield is greater than 5.3 Litre? 5

4. a) Illustrate level of significance and test statistic with an example.

4

b) Two herds of cows were fed two different rations to determine the change in body weight. At the end of the experiment, the body weights were calculated. The mean and standard deviation are given below:

	Ration A	Ration B
Mean	27.3	25.7
SD	1.6	1.7
size	15	10

Is Ration A causes cows to gain more weight? Test at 5% level of significance.

5. a) Explain Rank correlation with an example

4

b) A study conducted by Ramsay et al. (2017) found the minimum calf age (in days) and minimum average daily weight gains (in pounds) as follows:

Min calf age	148	152	146	149	159	156	154	150	139	133
Min average daily weight gain	2.1	2.2	1.8	1.6	1.7	1.9	2.0	2.1	1.7	1.7

Compute the correlation between age and average daily weight gain and comment.

Chattogram Veterinary and Animal Sciences University

Dept. of Dairy and Poultry Science

MS in Dairy Science Final Examination' 2022

January – June Semester

Course: Quality Control of Dairy Products Course Code: QCD-601

Total Marks: 40 Time: 2 hours

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

1. a) Differentiate quality control from quality assurance. 05
b) What are the basic requirements of quality control? 05
2. a) What are the roles of different layers of packaging materials of "Tetra Pack" for keeping quality of the flavoured milk? 05
b) What are the guidelines of BSTI for packaging and marking of market milk? 05
3. a) What are the BSTI permitted food additives with maximum level of use for manufacturing ghee and butter oil? Mention the BSTI standard for butter oil and ghee. 05
b) Mention the defects, causes and remedies of ghee/ butter oil. 05
4. a) Mention the BDS for plain and composite ice-cream. 05
b) What are the BSTI guidelines for using fresh and frozen fruits in dairy ice-cream? 05
5. a) Mention the judging and grading score of condensed and evaporated milks. 05
b) Mention the defects, causes and prevention of condensed milk. 05

Department of Dairy and Poultry Science
Chattogram Veterinary and Animal Sciences University
M S January – June Semester Final Examination – 2022
MS in Dairy Science
Course title: Dairy Nutrition (theory)
Course Code: DNT – 601

Time: 2 hours

Total marks: 40

Answer any four (4) of the following questions. Split answers are 4X10=40 strongly discouraged.

1. a) State the practical considerations in feeding colostrum to new born calves. 5
b) Describe the phases of development of calf stomach related to digestive functions. 5
2. a) Describe the process of feeding milch cows. 5
b) State the thumb rule of feeding concentrates in cattle and buffalo. 5
3. a) Suggest ration for a cow weighing 350 kg producing 20 kg of milk with 4.0% fat using thumb rule method. 5
b) State the reasons for maintaining the dry period. What are the principles of feeding a dry cow. 5
4. a) Describe the feeding strategy of cattle during their transition phase. 5
b) Summarise the nutrient requirements of high yielding dairy cattle during different phases of their lactation. 5
5. a) Sketch the metabolism process of different carbohydrates in dairy cows. 5
b) Describe the new protein approaches for formulation of TMR. 5

January to June Semester 2022 Final Examination
Department of Dairy and Poultry Science
MS in Poultry Science
Chattogram Veterinary and animal Sciences University
Course Title: Advanced Biostatistics
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) Suppose you are given a data set on the years of experience of broiler farmers and biosecurity scores given by a researcher after evaluating the biosecurity conditions of the broiler farms in Patiya: 7

Years of experience in poultry farming	Biosecurity scores (out of 100)
2	44
4	76
4	61
4	67
3	54
4	77
4	70
4	60
4	66
4	57
3	48
3	40
4	50
4	48

Fit the regression line to predict biosecurity scores from years of experience of the farmers. Explain the slope of the regression line.

- b) Suppose the value of Coefficient of Determination from the above data is 0.75. Interpret the result. 3

2. a) A study conducted by Imam et al. (2020) showed a contingency table of farm types and characteristics of the chicken flocks in Chattogram, Bangladesh. The data is as follows: 6

Flock size	Farm types	
	Layer farms	Broiler farms
≤500 birds	2	3
501-2500	30	72
>2500	22	8

Is there any association between farm types and flock size? Use 5% level of significance.

- b) How would you test the above data if the means of the variables were provided.

3. A study, conducted by Islam et al. (2013) found the body weight (in grams) of Deshi ducks between the age 60 and 150 days in Barisal as follows:

573.5, 593.0, 613.0, 658.3, 703.0, 758.0, 812.0, 864.0, 915.0, 959.0, 994.5, 1049.0, 1103.0, 1142.3

a) Test at 5% level of significance whether the mean weight of ducks is more than 900.0 grams? 5

b) Suppose the mean weight of ducks increased 100 grams after administering feed A for six months. Test at 5% level of significance whether there is any significant difference at 5% between the given data for feed A and another data of the sample of 14 Deshi ducks with mean weight of 110 grams and standard deviation of 12 grams? 5

4. a) Outline the formula to test two population means in case of unknown population variance 5

b) A study by Billah et al. (2013) claimed that the mean score of 50 poultry farmers according to their knowledge in respect of breeding is 7.52 with a SD of 2.60. A researcher believe that the mean score should be less than 7.52. To test his belief, the researcher randomly sampled 15 poultry farmers and found the mean score of 6.89. Can the researcher conclude at 5% level of significance that the mean score is less than 7.52? The critical value is 1.96. 5

5. a) Explain Simple Correlation with an example 4

b) The data on age and weight of a sample of chickens is as follows: 6

Age(day)	5	7	9	11	13	15
Weight(kg)	.23	.48	.60	.85	.90	1.1

Calculate the correlation and comment.

Chattogram Veterinary and Animal Sciences University

MS in Poultry Science Final Exam-2022

Semester—January –June-2022

Subject: Avian Health and Hugiene-AHH-601(Theory)

Total marks: 40; Time: 2 hours

Answer any five questions with 1; Figures in the right margin indicate full marks

1. What is health , hygiene and sanitation ? Discuss the scope, importance and limitations of good hygiene in poultry 8.0
2. a)'An ounce of prevention is worth a pound of cure'', certainly applies to poultry diseases.—justify this 5.0
b).Mention import health requirements of poultry 3.0
3. a) What is disease? Mention the causes of poultry disease incidences in the farm 2.0
b) Cite how will you recognize sound and sick birds in the farm 3.0
c). Discuss poultry inspection and health 3.0
4. Mention poultry vices. Discuss how these vices affect farm health and productivity? 8.0
5. What is infectious and contagious diseases? Discuss the prevention and controlling measures of infectious and non-infectious diseases of poultry 8.0
- 6 .a) What is stress? Discuss how stress affect flock health and ways of removing stress from flock 4.0
b) Mention behavioral activities of poultry during heat-stress condition 4.0
7. a) What is disinfectants and disinfestations? Mention the methods of disinfection and characteristics of an ideal disinfectants usually used in poultry farms 4.0
b) Enlist the methods of administration of poultry 4.0
8. What is hatchery wastes? Discuss hatchery hygiene and sanitation management 8.0

Chattogram Veterinary and Animal Sciences University

MS in Poultry Science Final Exam-2022

Semester—January –June-2022

Subject: Ducks and Specialized Fowl Production-DSF-601(Theory)

Total marks: 40; Time: 2 hours

Answer any four questions with 1; Figures in the right margin indicate full marks

1. a). Do you think that duck rearing is more advantageous than that of chicken -justify ? 2.0
b). State some strategies with which you can improve a duck breed which is suitable for rearing in the coastal areas of Bangladesh 5.0
c). Discuss duck breeding farms in the world 3.0
2. a) Discuss some policies with which you can popularize quail farming in Bangladesh 5.0
b). What is broiler? State rearing system for hatching and marketing broiler quail 5.0
3. a) What is **sacred bird** ? Describe feeding ,fattening and marketing of **holiday bird** 5.0
b). What is green geese ? State the meat quality of specialized fowl which are specially served during '**Thanksgiving and Christmas**' day 3.0
c). Discuss the fibre (15—20 %) digestion process by poultry species 2.0
4. a) What is watchdog ? State how specialized fowl can be used as watchdog 3.0
b). Discuss keet rearing difficulties up to maturity stage 3.0
c). 'Chinese fowl is not an ideal mother' —justify 4.0
5. a) What is dovecote/ ? Is it possible to operate pigeon hatchery —explain? 3.0
b). What is squab? Discuss the specialty of a meat which is good for the invalids and the persons with the digestive disorders 3.0
c). State the hatching, feeding and nutrition systems of squabbling pigeon 4.0
6. a) State the rearing management of poult 3.0
b). Discuss the breeding technique of turkey 3.0
c). Narrate strategies which you can adopt to enhance turkey production in Bangladesh 4.0
7. **Give short note on any five of the following:** 5 × 2----- 10.0
a) Run b) Pinioning c) Animal Crop c) Crop milk d) Special traits of pigeon e) Chinese love bird f) Breeds and varieties of Duck g) Turkey marketing:

Chattogram Veterinary and Animal Sciences University

MS in Poultry Science

(January- June semester) Final Examination-2022

Course: Poultry Breeding; Course code: PBR- 601

Full Marks- 40; Time- 2.00 hours

Answer **any four** questions. Figures in the right margin indicate the full marks.

1. a. What is line breeding? Under farm conditions how long is it advisable to use the same male bird? 4
b. How soon after mating may egg be saved for hatching? From a breeding standpoint what factors affect hatchability? 6
2. a. What do you mean by breeding goals and criteria? Mention some important economic traits in layer. 3
b. What are the breeding methods you will follow to improve indigenous chickens of Bangladesh? Discuss in details. 7
3. a. What is selection? Briefly discuss the independent culling method of selection with appropriate example. 5
b. Briefly discuss the breed structure of poultry. 5
4. a. Suppose a hatchery owner just hatched 1000 chicks. Normally what would be the male/female ratio? How can you tell whether the chicks are male or female? 5
b. Briefly discuss about genotype by environment interactions in poultry breeding programs. 5
5. Write short notes on: 10
 - (i) Mating systems of poultry
 - (ii) General and specific combining ability

Chattogram Veterinary and Animal Sciences University

MS in Poultry Science Final Exam-2022

Semester—January –June-2022

Subject: Poultry Processing and Products Tencology-PPT-601(Theory)

Total marks: 40; Time: 2 hours

Answer any five questions with 2; Figures in the right margin indicate full marks

1. a). What is Poultry Products Technology ? Enumerate the poultry products available in the super market 4.0
b). Enlist the types of meat chicken 4.0
2. a) What is fryer? Distinguish between dark and white meat 2.0
b). 'Breast meat of broiler is the best meat';—justify 2.0
c) Sketch a plant used for broiler processing 4.0
3. Discuss briefly the different steps of processing live broiler 8.0
4. a) Show the egg processing techniques in a flow chart 4.0
b) What is pasteurization ?Mention five approved processes for pasteurization of liquid egg white 2.0
c). Enlist egg preservation techniques and discuss one method for the large scale egg preservation 2.0
5. a) What is organic egg and balut? Write the uses of various forms of eggs in food products 3.
b) What is meat and egg quality? Discuss briefly how will you assess egg and meat quality 5
6. a) Enlist factors affecting poultry carcass quality, and carcass grading 4.0
b). Mention ante-mortem and post-mortem inspection of broiler chicken 4.0
7. a} What is spoilage, rancidity, putrefaction and souring? 2.0
b) Discuss poultry meat preservation techniques –in a nut shell 6..0
8. What is grading? Discuss egg and meat grading systems briefly 8.0

MSc Poultry science final examination 2022

Semester: January-June

Course: Poultry Farm Planning and Management

Course code: POM601

(Answer all of the questions. All questions are of equal marks)

Total marks: 40

Time: 2 hours

Questions:

- 1. Describe site selection in poultry farm establishment.**
- 2. Describe housing for commercial layer farm.**
- 3. Give detail of layer farm plan on 10000 laying hen.**
- 4. Give detail of broiler farm plan on 10000 commercial broiler.**