

**Department of Dairy and Poultry Science
Chittagong Veterinary and Animal Sciences University
MS July – December Semester Final Examination – 2022**

MS in Dairy Science

Course Title: Microbiology of milk and milk products (Theory)

Course Code: MMP – 602 (T)

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 common microorganisms of condensed milk products with their effects. 5
b) State the microbiological examination techniques of evaporated milk. 5
2. a) Mechanism of action of starter culture in dahi preparation. 5
b) Describe the mechanisms of aroma production in ripened dairy products. 5
3. a) State the common pathogens of cheese with associated human health hazards. 5
b) State the common microbial defects and their control in cheese. 5
4. a) What are the different types of starter cultures. Write at least 2 examples of each category. 5
b) Enumerate the Lactic Acid Bacteria (LAB) employed in cheese. 5
5. a) Enlist the common milk-borne diseases along with the responsible microorganisms. 5
b) List 10 predominant pathogens of ice cream. State the initial microflora and their effect on post-process contamination of milk. 5

Chittagong Veterinary and Animal Sciences University

Dept. of Dairy and Poultry Science

Final Examination July-December Semester/2022

MS in Dairy Science

Course: Market Milk Production and Processing

Course Code: MMP-602, Total Marks: 40, Time: 2 hours

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

1. a) What are the basic differences between Reconstituted and Recombined milk? 03
b) Mention the merits of both Reconstituted and Recombined milk 02
c) Show the manufacturing procedure of Reconstituted and Recombined milk by the flow diagram. 05
2. a) What are the basic differences between flavoured milk and flavoured drink? 02
b) Analyze the points to be considered for mixing fruit juices / syrups during processing of milk shakes. 04
c) Show the manufacturing procedure of chocolate milk by a flow diagram. 04
3. Discuss the manufacturing procedure of UHT milk. 10
4. a) Explain the different types of CIP system. 03
b) How will you perform CIP of a HTST pasteurizer? 04
c) Explain the preference of detergents in organized dairies. 03
5. a) How many kg each of 30% cream and 3% fat containing milk will be required to make 50000kg of a mixture testing BSTI standard fat? 06
b) Discuss the factors influencing homogenization of milk. 04

Department of Dairy and Poultry Science
Chittagong Veterinary and Animal Sciences University
MS July – December Semester Final Examination – 2022
MS in Dairy Science
Course Title: Research Methodology (Theory)
Course Code: RMD – 602

Time: 2 hours

Total marks: 40

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

1. a) Differentiate 'Research Methods' from 'Research Methodology'. 5
b) Sketch the 'research processes' in a diagram. 5
2. a) What are the features of a good research design? 5
b) State the characteristics of a good hypothesis. 5
3. a) Describe the steps in sample design for an experiment. 5
b) Briefly describe the types of sample designs. 5
4. a) State the techniques of interpretation. 5
b) Describe the data processing operations along with their problems. 5
5. a) Describe the steps in writing a research report. 5
b) Sketch the layout of a research report. 5

Chittagong Veterinary and Animal Sciences University

Dept. of Dairy and Poultry Science

Final Examination July-December Semester/2022

MS in Dairy Science

Course: Advanced Dairy Cattle Production

Course Code: DCP-602, Total Marks: 40, Time: 2 hours

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

1. a) List the commercial methods of milk collection throughout the world and which one is more popular in Bangladesh & why? 05
- b) "Payment according to cost of production of milk is more appropriate method for all parties concerned" – justify. 05
2. a) Why the milk of indigenous cattle of Bangladesh doesn't qualify as organic milk? 05
- b) What are the initiatives should be taken for popularizing organic milk in Bangladesh? 02
- c) "Indigenous chicken is in better commercial position compare to indigenous cattle as organic agricultural item in Bangladesh" – justify. 03
3. Show the biological framework for herd fertility of both cow and heifer. 10
4. Enumerate the cattle rearing practices in Bathan at northern part of Bangladesh. 10
5. a) Mention the basic principles of all dairy production systems. 02
- b) List basic components of all milk production systems. 03
- c) How the dairy industry of Bangladesh was affected by COVID-19 pandemic? 05

Chittagong Veterinary and Animal Sciences University

MS in Dairy Science

July-December semester final examination-2022

Course: **Advanced Dairy Cattle Breeding**

Course code: ADB-602

Full marks: 40; Time: 2 hours

Date: 11/12/2022

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

1. (a) Contrast between out crossing and cross breeding. **3**
- (b) In dairy cattle, selection can be most accurate and most effective using Expected Progeny Difference (EPD), explain. **5**
- (c) What do mean by Quantitative traits loci (QTL)? **2**

2. (a) Develop a plan for cross breeding to improve dairy cattle in Bangladesh. **6**
- (b) What are the opportunities and challenges may come across while developing a plan for cross breeding in dairy cattle of Bangladesh. **4**

3. (a) Summarize strategic priorities to control inbreeding depression in dairy cattle. **6**
- (b) Write a short note on marker assisted selection (MAS). **4**

4. (a) Define genomic selection? Write in short about application of genomic selection in cows. **4**
- (b) Describe the factors affecting the rate of genetic progress in dairy cattle. **6**

5. (a) Suppose you are invited to give a talk on “dairy breeds and selection”. Prepare a note for the talk based on your knowledge of advanced cattle breeding. **7**
- (b) Write in details about the beneficial effects of hybrid vigour. **3**

Chattogram Veterinary and Animal Sciences University
MS in Poultry Science Final Exam 2022-Theory
Semester-July-December-2022
Subject: Poultry Feeds and Feeding
Course Code: PFF-602; Total marks: 40; Time: 2 hours

Answer any five of the following questions **including question 1**; Figures in the right margin indicate the full marks

1. a) What is poultry feed and feeding or poultry nutrition? State the disciplines which are correlated closely with the poultry feeding studies 4.0
b) Discuss the salient constraints or challenges of poultry feeds to which our farmers or our next generation are very much worried 4.0
2. a) What is ration, diet, balanced ration? Discuss the manual procedures of formulating balanced ration for poultry 4.0
b) Enlist the desirable traits and factors which you will consider for feed formulation of chicken 4.0
3. a) What is ME and NE? List the methods how you can determine the feed energy 4.0
b). What is feeding standard and inclusion level? Enlist the feeding standard and inclusion level of poultry feedstuffs 4.0
4. a) What is implants, chelating agents, phytic acid and emulsifier? State the roles of these feed additives for poultry production 4.0
b) Enlist the behavioral symptoms of poultry during heat stress condition, and state the nutritional management system of layer chicken during stress condition 4.0
5. What is feed quality and BV? Discuss the physical, chemical and biological appraisal for evaluating the quality of poultry feed 8.0
6. What is ANFs, VFI, and anti-metabolites ? Discuss the factors that affect VFI and AA requirement of poultry 8.0
7. a) What is FCR and FCE? Calculate the feed requirement and cost of 1000 broiler and layer chicken up to growing stages, and enlist the steps for reducing the feed cost of poultry 5.0
b) What is CF, CP, EAA, limiting AA, and IP⁶? Briefly discuss the role of these stuffs for the feed formulation of poultry 3.0
8. a) What is vitamins, pro-vitamins, macro and micro- minerals? Enlist the metabolic diseases caused by vitamins and mineral deficiency in poultry, and state its remedial measures 8.0

MSc Poultry Science

Final Examination 2022 ; July-Dec.

Course: Parent stock and commercial layer management

Total marks:40

Time 2 hours

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

Give a plan for production of 880000 table eggs daily.

2. How would you plan for hatch of 850000 chicks weekly?

3. Write in detail of management and biosecurity practice in table egg production farm.

4. Write importance of vaccination. Give vaccination schedule in layer farm from replacement pullet to one year of production.

Chattogram Veterinary and Animal Sciences University
Department of Dairy and Poultry Science
MS in Poultry Science
July-December Semester Final Exam-2022
Sub: Poultry Behavior and Welfare
Sub code: PBW-602
Total marks: 40
Total time: 2hours

Answer any of the five questions (5X8= 40). The mark for each question is indicated on the right-hand side).

1. a) Define poultry behaviour. State the importance of understanding poultry behaviour. 4
- b) Briefly describe the general behaviours of chickens. 4
2. a) State the factors that influence the behaviour of poultry. 6
- b) What behavioural adaptations do chickens have? 2
3. a) Summarize the breeding behaviours of poultry. 4
- b) Write short notes on preening and imprinting. 4
4. a) Enlist the behaviour problems of poultry with possible causes. 5
- b) How can you modify the husbandry system to improve poultry welfare? 3
5. a) Define poultry welfare. What are the five principles of poultry welfare? 2
- b) What are the animal welfare challenges associated with meat chicken production? 6
6. a) Describe the importance of poultry welfare. 5
- b) How do you assess poultry welfare issues on a farm? 3
7. a) Describe the present scenario of poultry welfare in Bangladesh. 5
- b) What is "one welfare"? How will you describe the concept of "one welfare"? 3

Chattogram Veterinary and Animal Sciences University

MS in Poultry Science final Exam-2022-Theory

Semester: July- December-2022

Subject: Biochemistry of Egg

Course Code: BCE-602; Total Marks: 40; Time: 2 hours

[Answer any five of the following questions Figures in the right margin indicate the full marks]

1. a) What is egg, egg grading and HU? State the nutritional value of different species of poultry egg 5.0
b) Show the egg grading or egg classification 3.0
2. a) What is egg quality? State the different methods of assessing egg quality 4.0
b) Discuss the nutritional impact on the quality of egg 4.0
3. a) Discuss the uses of various forms of eggs in food products: 4.0
b) State the uses and mechanism of egg shell formation 4.0
4. What is spoilage, putrefaction, rancidity, souring of egg food products? Briefly discuss the microbial impact on the deterioration of egg quality 8.0
5. a) Discuss the mechanism of fertile egg formation 4.0
b). Enlist the egg shell defects with its causes and remedial processes 4.0
6. a) What is the function of egg shell? Give the detailed composition of egg shell 4.0
b) State the factors that affect the egg shell quality 4.0
7. a) What is egg processing and its objectives ? Cite the techniques for egg processing 4.0
b). Show the flow chart of **production of frozen egg** and **spray dried whole egg** 4.0
8. **Give a short note -any five of the following: (1.6 × 5)** 8.0
 - a) Protein of egg white
 - b) Yolk composition
 - c) Bloom
 - d) Role of egg for COVID-19
 - e) Impact of egg on HDL
 - f) Lutein and zeaxanthin
 - g) Livetin
 - h) Organic egg

Chattogram Veterinary and Animal Sciences University
Department of Dairy and Poultry Science
MS in Poultry Science
July-December Semester Final Exam-2022
Sub: Hatchery operation and management
Sub code: HMT-602
Total marks: 40
Total time: 2hours

Answer any of the five questions (5X8= 40). The mark for each question is indicated on the right-hand side).

1.	a)	Briefly state the factors that maintain hatching potential.	4
	b)	Describe the possible sources of hatching eggs. Which source is more reliable and why?	4
2.	a)	Define incubation. What three factors influence the total incubation time?	4
	b)	How should eggs be treated to avoid temperature shock to the embryo?	4
3.	c)	What are the optimum physical conditions for any chick embryo to grow?	3
	b)	Briefly describe the factors that affect the incubation time.	5
4.		State the steps involved in the processing of chicks.	8
5.	a)	Define fertility and hatchability.	2
	b)	Suppose you are working as a hatchery manager. While evaluating the chick quality, you observe that the body weight of the day-old chicks (Ross 308) is below the average standard body weight. How will you infer this situation? What measures should be taken to prevent this situation from happening further?	6
6.		Write short notes on the following a) Hatch window b) Hatching failure	8
7.	a)	A batch of 100 hatching chicken eggs was set in an incubator, where 85-day-old chicks were hatched, among which three were malformed and not saleable. Note that only 90 eggs were transferred to the hatcher after candling. Moreover, the breakage of the 15 discarded eggs revealed that five were infertile, whereas the rest showed early signs of embryonic death. Calculate the hatchability, hatch to transfer, hatch to fertile.	3
	b)	Which method of hatchability measurement is widely accepted and why?	3
	c)	Calculate the body weight of chickens, ducks, geese, turkeys, quail, peafowl, pheasant, and swan younglings	2

MSc. Poultry Science

Final Examination 2022 ; *July-Dec.*

Course: Parent stock and commercial broiler management

Total marks:40

Time: 2 hours

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

1. Give a plan for production of 880000 commercial broiler monthly.
2. How would you plan for hatch of 850000 day old broiler monthly?
3. Write in detail of management and biosecurity practice in broiler breeder farm.
4. Write importance of vaccination. Give vaccination schedule in broiler breeder farm from day old to all out.