

Chittagong Veterinary & Animal Sciences University

M.S. in Dairy Science

Jan - June Semester, 2017

Sub: Dairy Chemistry Course Code DCH 601

Total Marks - 40

Time — 02 (two) hours

Answer any 4 (four) questions. Figures in the right margin indicate full marks. Split answers are strongly discouraged.

1. (a) State the analytical composition of milk 5.0  
(b) What are the common non-protein nitrogenous components in milk. State their proportionate presence in milk. 5.0
2. (a) State the common proteins present in milk. 3.0  
(b) Show the changes of total proteins during transition from colostrum to normal milk. 3.0  
(c) State the amino acid composition in whey proteins. 4.0
3. (a) What do you mean by "radioactivity in milk"? 2.0  
(b) What are the sources of radioactive materials in milk. State their detection procedures. 6.0  
(c) Enumerate the control measures of these materials. 2.0
4. What is Embden-Meyerhof Pathway? State the sequential reaction till the formation of pyruvic acid. 10.0
5. Write short notes (any four)  $4 \times 2.5 = 10.0$ 
  - (a) Formation of diacetyl;
  - (b) Off flavors of milk;
  - (c) Chemistry of curd formation;
  - (d) Iodine number;
  - (e) Refractive index of milk;
  - (f) Oxidation-Reduction equilibria in milk; and
  - (g) Association of Vitamin A with fat particles



Chittagong Veterinary & Animal Sciences University  
Department of Dairy & Poultry Sciences  
MS in Dairy Science

Jan - June Semester, 2017

Sub: Dairy Technology Course Code: DTL 60

Full Marks 40

Time - 02 (two) hours

Figures in the right margin indicate full marks. Answer any four questions. Split answers are discouraged.

1. (a) Sketch the process lines of continuous butter manufacture. 3.0  
(b) State the storage procedures of butter in industrial production. 3.0  
(c) Write a note on "cholesterol reduced butter". 4.0
2. (a) State the characteristics of soft cheese. 3.0  
(b) Sketch the industrial procedure for manufacturing Cheddar cheese. 3.0  
(c) Write a note on "dairy protein products". 4.0
3. (a) Sketch the methods of freezing in ice-cream preparation. 3.0  
(b) State different packaging in ice-cream. 3.0  
(c) Write a note on "preparing ice-cream mix". 4.0
4. (a) State procedures of industrial production of Powdered milk. 3.0  
(b) State the techniques of packaging powdered milk. 3.0  
(c) Write a note on "nutritional properties of whole milk powder". 4.0
5.  Write short note (any four) of the following  $4 \times 2.5 = 10.0$ 
  - (a) Storage of fruit yoghurt;
  - (b) Manufacturing evaporated milk;
  - (c) Indigenous sweetmeats of Bangladesh;
  - (d) Techniques of freeze drying of dairy products;
  - (e) Adulteration of ghee and butter oil;
  - (f) Judging dairy products; and
  - (g) Manufacturing techniques of Chhana.



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. 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

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

2. a) Define Hypothesis and types of error in hypothesis. What is power of a test? 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 population mean with a specific value in case of small samples. 5
- b) Given a sample of 50 cows with an arithmetic mean for lactation milk yield of 3600 kg. Does this herd is greater than a population with a mean of 3500 kg and standard deviation of 700 kg? ( Use 5% level of significance). 5

5. a) Define Rank Correlation with an example. When it can be used? 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	13	11	15

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



**Chittagong Veterinary and Animal Sciences University**  
**Department of Dairy and Poultry Science**  
**M S January – June Semester Final Examination – 2017**  
**MS in Dairy Science**  
**Course title: Functional Dairy Ingredients (theory)**  
**Course Code: FDI – 601(T)**

Time: 2 hours

Total marks: 40

**Answer any four (4) of the following questions**

**4X10=40**

1. a) Define functional food. State the significance of functional dairy food. 4  
b) Write a short note on lactic acid bacteria highlighting its probiotic roles. 4  
c) Functional food is superior than other food – Justify 2
2. a) Tabulate the antimicrobial compounds produced by lactic acid bacteria with their actions/uses. 6  
b) Analyze the role of lactic acid bacteria in assuring safe food for human. 4
3. a) Briefly discuss the interactions between gut microbiota and host. 4  
b) Correlate the role of probiotics, prebiotics and symbiotics in animal model. 6
4. a) What is lactoferrin? 2  
b) Briefly discuss the role of functional dairy ingredients on colon cancer, cardiovascular diseases and osteoporosis. 4  
c) Write a note on attitudes of consumers on functional food and future trends. 4
5. a) State the bio-active functions of low lactose and lactose free milk products. 2  
b) State the role of functional dairy ingredients on allergies, immune response and gut inflammation. 4  
c) Give an overview on functional dairy products fortified by bio-active compounds. 4



January to June Semester, 2017 Final Examination  
 Department of Dairy and Poultry Science  
**MS in Dairy Science**  
 Chittagong Veterinary and Animal Sciences University  
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 Course Title: BST-601  
 Full Marks: 40                      Time: 2 hours

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

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



**Chittagong Veterinary and Animal Sciences University**  
**Department of Dairy and Poultry Science**  
**M S January – June Semester Final Examination – 2017**  
**MS in Dairy Science**  
**Course title: Functional Dairy Ingredients (theory)**  
**Course Code: FDI – 601(T)**

Time: 2 hours

Total marks: 40

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**4X10=40**

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**Answer any 4 from the following questions. Values are shown in the right margin in each question.**

1. a) Illustrate LSD with an example. 3
- b) A trail with 5 diets was conducted to the salesmen of Agora with same age, body weight, sex etc are selected to measure the change in weight. 7

Treatments				
6.0	6.5	6.3	7.0	5.1
4.7	5.6	8.7	6.7	6.8
5.5	4.8	5.4	6.8	4.6
4.91	5.5	6.4	7.8	4.6
8.0	6.7	4.9	6.7	7.9
6.8		5.2	6.4	
4.92			5.2	

Are the treatments statistically different?

2. a) Define Simple Linear Regression with an example. 4
- b) The marks of 5 students (out of 7.5) in Anatomy and Biostatistics are

A	6	6.5	5.8	4	7
B	7.5	7	7.2	3.5	6.5

Compute the suitable Correlation coefficient and comment. 6

3. a) Explain Simple Linear Regression with an example. 3
- b) Estimate the regression line of weight on age of chickens from the following sample:

Age(day)	5	7	9	11	13	15
Weight(kg)	.25	.45	.60	.80	.90	1

What will be weight of chickens when the age is 20 days? 7

4. a) Name Student's t test with two applications. 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. Here is the data: 6

	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.

5. a) Depict types of error elaborately. 4

- b) Given a sample of 50 cows with an arithmetic mean for lactation milk yield of 3600 kg. Does this herd is greater than a population with a mean of 3500 kg and standard deviation of 700 kg? (Use 5% level of significance). 6



MSc Poultry science final examination 2017  
Course: Poultry farm planning and management  
Course code: PPM

(Answer any four of the questions. All questions are of equal marks)

Total marks: 40

Time: 2 hours

Questions:

1. Give planning of a commercial farm for 5000 broiler.
2. Write in details of management practices in a commercial broiler farm.
3. Give planning of a commercial farm for 5000 layer.
4. Write in detail of biosecurity in a commercial layer farm.
5. Give planning of a commercial farm for 5000 duck in semi scavenging system of management.



**Answer any 4 from the following questions. Values are shown in the right margin in each question**

1. a) Define Simple Linear Regression with an example. What do you mean by coefficient of determination? State when one can call a model 'GOOD'? 5
- b) Find the strength of relationship between age and weight of the given chickens and comment. 5

Age(day)	6	8	10	12	14	16	18	20
Weight(kg)	.30	.45	.60	.90	.10	1.2	1.5	1.8

2. a) What is critical and acceptance region? What is confidence coefficient of a test? 4
- 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: 6

	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 at 5% level of significance?

3. a) Define treatment, block, experimental unit and yield with an example each. 5
- b) Define RBD with a practical example in your field. In what circumstances RBD will turn into CRD. Explain. 5
4. a) Derive the formula to test a population mean with a specific value in case of small samples when population variance is known. 4
- b) 3 different kinds of hormone were applied to 4 blocks of chickens. Are the treatment and block statistically significant?(use 5% level of significance) 6

Block/Treatment	1	2	3
1	1.5	1.3	1.5
2	1.4	1.8	1.6
3	1.35	1.55	1.12
4	1.7	1.1	1.71

5. a) Define Chi square. Write some of its uses. 4
- b) A certain drug is effective in curing cold. In an experiment on 500 farm owners suffering from cold, half of them were given sugar pills and half of them were given drug. Test the reaction to the treatment on patients: 6

	Helped	Harmed	No effect
Sugar pills	130	40	80
Drug	150	30	70



Chittagong Veterinary and Animal Sciences University  
Dept. of Dairy and Poultry Science  
MS in Poultry Science  
Final Examination (Semester: January-June), 2017  
Course Title: Poultry Processing and Products Technology  
Course Code: PPT-601  
Total Marks: 40; Time: 2 Hours

Answer any 4 (four) of the following questions. Each question has equal marks. Figures in the right margin indicate full marks.

- What do you mean by Poultry Products Technology? State the scopes of Poultry Products Technology in Bangladesh. 5
  - What is table and hatching egg? State the nutritional composition and food value of poultry eggs of different species. 5
- Sketch the flow diagram of broiler processing plant. Illustrate the methods of stunning and scalding used in poultry processing plants. 5
  - Define the following terms:  
Broiler, Fryer-roaster turkey, Greenhouse, Marbling, PSE 5
- Explain briefly about non-meat ingredients used in poultry products? Justify the economic importance of non-meat ingredients in preparation of meat products. 5
  - What is meat preservation? State different methods of poultry meat preservation and briefly describe two of them. 5
- What is poultry carcass grading? Summarize the mechanisms of grading ready-to-cook poultry for marketing. 5
  - What is sharp freezing? State the factors that influence rate of freezing of poultry products. 5
- Enlist the poultry products (meat and egg) available in the supermarket. Discuss industrial utilization and bakery uses of eggs. 5
  - State the procedure of manufacturing Turkey Ham and Chicken Nuggets. 5



Table 5. Critical Values of t.

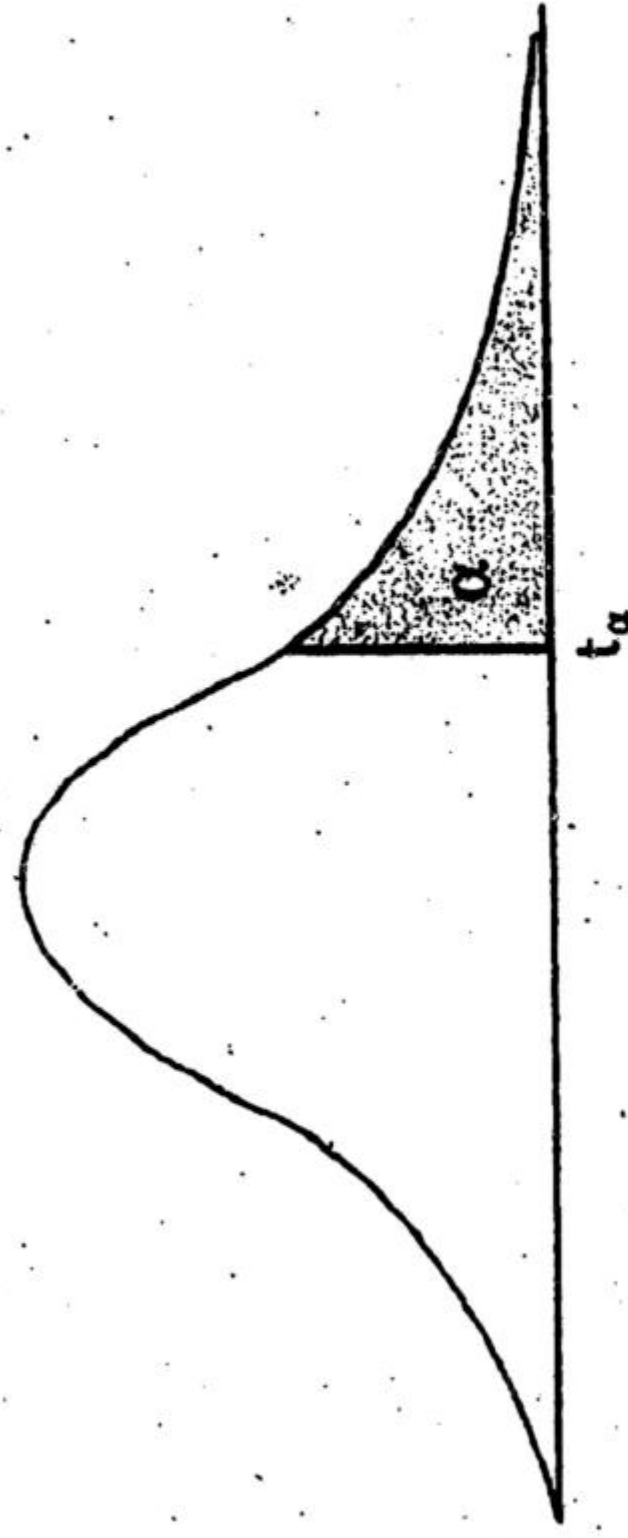
z	0	1	2	3	4	5	6	7	8	9
.0	.5000	.5040	.5080	.5120	.5160	.5190	.5239	.5279	.5319	.5359
+1	.5398	.5438	.5478	.5517	.5557	.5596	.5636	.5675	.5714	.5753
+2	.5793	.5832	.5871	.5910	.5948	.5987	.6026	.6064	.6103	.6141
+3	.6179	.6217	.6255	.6293	.6331	.6368	.6406	.6443	.6480	.6517
+4	.6554	.6591	.6628	.6664	.6700	.6736	.6772	.6808	.6844	.6879
+5	.6915	.6950	.6985	.7019	.7054	.7088	.7123	.7157	.7190	.7224
+6	.7257	.7291	.7324	.7357	.7389	.7422	.7454	.7486	.7517	.7549
+7	.7580	.7611	.7642	.7673	.7703	.7734	.7764	.7794	.7823	.7854
+8	.7881	.7910	.7939	.7967	.7995	.8023	.8051	.8078	.8106	.8133
+9	.8159	.8186	.8212	.8238	.8264	.8289	.8315	.8340	.8365	.8389
+1.0	.8413	.8438	.8461	.8485	.8508	.8531	.8554	.8577	.8599	.8621
+1.1	.8643	.8665	.8686	.8708	.8729	.8749	.8770	.8790	.8810	.8830
+1.2	.8849	.8869	.8888	.8907	.8925	.8944	.8962	.8980	.8997	.9015
+1.3	.9032	.9049	.9066	.9082	.9099	.9115	.9131	.9147	.9162	.9177
+1.4	.9192	.9207	.9222	.9236	.9251	.9265	.9278	.9292	.9306	.9319
+1.5	.9332	.9345	.9357	.9370	.9382	.9394	.9406	.9418	.9430	.9441
+1.6	.9452	.9463	.9474	.9484	.9495	.9505	.9515	.9525	.9535	.9545
+1.7	.9554	.9564	.9573	.9582	.9591	.9600	.9608	.9616	.9625	.9633
+1.8	.9641	.9648	.9656	.9664	.9671	.9678	.9686	.9693	.9700	.9706
+1.9	.9713	.9719	.9726	.9732	.9738	.9744	.9750	.9756	.9762	.9767
+2.0	.9772	.9778	.9783	.9788	.9793	.9842	.9846	.9850	.9854	.9857
+2.1	.9821	.9826	.9830	.9834	.9838	.9842	.9846	.9850	.9854	.9857
+2.2	.9861	.9846	.9868	.9871	.9874	.9878	.9881	.9884	.9887	.9890
+2.3	.9893	.9896	.9898	.9901	.9904	.9906	.9909	.9911	.9913	.9916
+2.4	.9918	.9920	.9922	.9925	.9927	.9929	.9931	.9932	.9934	.9936
+2.5	.9938	.9940	.9941	.9943	.9945	.9946	.9948	.9949	.9963	.9964
+2.6	.9953	.9955	.9956	.9957	.9959	.9960	.9961	.9962	.9963	.9964
+2.7	.9965	.9966	.9967	.9968	.9969	.9970	.9971	.9972	.9973	.9974
+2.8	.9974	.9975	.9976	.9977	.9977	.9978	.9979	.9979	.9980	.9981
+2.9	.9981	.9982	.9982	.9983	.9984	.9984	.9985	.9985	.9986	.9986
+3	.9987	.9990	.9993	.9995	.9997	.9998	.9998	.9999	.9999	1.0000

Note 1 : If a normal variable X is not "standard". Its values must be

"standardized"  $Z = \frac{X - \mu}{\sigma}$ . That is,  $P[X \leq x] = \Phi\left(\frac{X - \mu}{\sigma}\right)$ .

Note 2 : For  $z \geq 4$ ,  $\Phi(z) = 1$  to four decimal places; for  $z \leq -4$ ,  $\Phi(z) = 0$  to four decimal places.

Note 3 : The entries opposite to  $z = 3$  are for 3.0, 3.1, 3.2, etc.



df	t <sub>.100</sub>	t <sub>.050</sub>	t <sub>.025</sub>	t <sub>.010</sub>	t <sub>.005</sub>	df
1	3.078	6.314	12.706	31.821	63.657	1
2	1.886	2.920	4.303	6.965	9.925	2
3	1.638	2.353	3.182	4.541	5.841	3
4	1.533	2.132	2.776	3.747	4.604	4
5	1.476	2.015	2.571	3.365	4.032	5
6	1.440	1.943	2.447	3.143	3.707	6
7	1.415	1.895	2.365	2.998	3.499	7
8	1.397	1.860	2.306	2.896	3.355	8
9	1.383	1.833	2.262	2.821	3.250	9
10	1.372	1.812	2.228	2.764	3.169	10
11	1.365	1.796	2.201	2.718	3.106	11
12	1.356	1.782	2.179	2.681	3.055	12
13	1.350	1.771	2.160	2.650	3.012	13
14	1.345	1.761	2.145	2.624	2.977	14
15	1.341	1.753	2.131	2.602	2.947	15
16	1.337	1.746	2.120	2.583	2.921	16
17	1.333	1.740	2.110	2.567	2.898	17
18	1.330	1.734	2.101	2.552	2.878	18
19	1.328	1.729	2.093	2.539	2.861	19
20	1.325	1.725	2.086	2.528	2.845	20
21	1.323	1.721	2.080	2.518	2.831	21
22	1.321	1.717	2.074	2.508	2.819	22
23	1.319	1.714	2.069	2.500	2.807	23
24	1.318	1.711	2.064	2.492	2.797	24
25	1.316	1.708	2.060	2.485	2.787	25
26	1.315	1.706	2.056	2.479	2.779	26
27	1.314	1.703	2.052	2.473	2.771	27
28	1.313	1.701	2.048	2.467	2.763	28
29	1.311	1.699	2.045	2.462	2.756	29
∞	1.282	1.645	1.960	2.326	2.576	∞

Source : From "Table of Percentage Points of the t-Distribution," *Biometrika* 32 (1941): 300. Reproduced by permission of the *Biometrika* Trustees.



# Chittagong Veterinary and Animal Sciences University

## Dept. of Dairy and Poultry Science

### MS in Dairy Science Final Examination/Jan.-June,2017

Course: Quality Control of Dairy Products

Course Code: QCD-601; Total Marks: 40

Time: 2 hours

You are a recent graduate of Chittagong Veterinary and Animal Sciences University & have been appointed as a Quality Control Officer in Bangladesh Standards and Testing Institution. At the 25<sup>th</sup> day of appointment you have assigned by your authority to investigate the quality of market milk and butter of different brands available in Bangladesh. Your controlling authority had remind you that being a employee of BSTI, you have reserved the right to collect the samples either from any dairy processing unit or products marketing channels but remember processors also have the right to challenge your test results before the honourable court. You have collected the samples following the protocol of BSTI and after testing in the reference laboratory you got the following results:

a) Market Milk: You have collected the samples from processing plants of respective brands.

Brands	BF%	SNF%	Protein%	Lactose%	Minerals%	Coliform/ ml	TVC CFU/ml	Posphatage test
A	3.3	8.9	3.0	5.2	0.6	01	20000	-Ve
B	3.6	8.3	3.4	4.3	0.66	11	58000	+ve
C	3.5	8.3	3.21	4.4	0.7	2	15500	-ve
D	3.5	8.3	3.3	4.4	0.71	1	17000	-ve
E	3.5	8.5	3.30	4.40	0.71	3	47000	+ve

The taste, colour and appearance of all samples were normal but rancid flavour was in brand E.

Answer the following questions in relation to the above scenario (a).

1. Critically analyse the quality of different brands against the BDS 1702:2002 requirements for market milk. 8
2. What test was mandatory for sample A & why? 2
3. What were the possible causes of rancid flavour in brand E. 5
4. What should be the packaging materials of market milk & recommended protocol of BSTI to be followed by the dairy processors for aseptic packaging of market milk? 5

b) Butter: You have collected samples from different departmental stores

Brands	Fat%	Moisture%	MSNF	Nacl	Food Additive mg/kg
A	77.30	18	2.45	1.95	30 (annato extracts)
B	80	17	2.15	0.65	10 (annato extracts)
C	80.30	16	1.00	2.5	20 (annato extracts)
D	80	18	0.70	1.00	30 (annato extracts)

Answer the following questions in relation to the above scenario (b)

5. What were the procedures you followed for collecting and testing the samples? 7
6. List the BSTI recommended food additives and acidity regulators with maximum inclusion level for butter. 5
7. Make a comparison of quality among the brands and which brand is more acceptable to you as per BDS/CAC-A-1:2002. 8



MS in Dairy Science Semester Final Examination  
January to June Semester 2017  
**Sub: Dairy Nutrition (DNT- 601)**  
Full Marks: 40; Time: 2 Hours

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

1. a) Explain bypass protein, inert fat and bypass anthalmentics? 4  
b) Discuss the importance with example of bypass protein in high yielding dairy cows. 6
2. a) What is fermentation? Discuss primary & secondary fermentation in ruminant. 4  
b) Briefly discuss the modern techniques available to maintain our dairy cattle. 6
3. a) What is ration? Discuss briefly about area specific mineral mixture. 4  
b) Formulate a daily ration chart for a dairy cow using available feed ingredients which having body weight 300 kg offering milk 15 litres per day. 6
4. a) Discuss how the composition of milk varied upon the offered feed. 4  
b) What is feeding standard? Discuss the feeding standard for growth of a cattle. 6
5. a) Briefly discuss the possible ways of feeding urea to a ruminant. 4  
b) What do you mean by digestibility? Briefly discuss the factors that affect digestibility of a feed. 6
6. Write short notes (any 4) on: 4x2.5 = 10
  - a) Apparent vs true digestibility,
  - b) UDP vs RDP,
  - c) Calf feeding,
  - d) Proximate analysis scheme,
  - e) Evaluation of feed quality,
  - f) Feed additives



**Chittagong Veterinary and Animal Sciences University**

M S in Poultry Science

January-June Semester Final Examination 2017

**Course title: Poultry Breeding**

Course Code: PBR-601

Total marks: 40

Time: 2 hour

Answer any 2 (Two) question from the followings. Values are shown in the right margin in each question.

1. a) What is poultry breeding? Write down the objective of poultry breeding for poultry improvement with example. **5.0**
- b) Write in brief about the polyphyletic and monophyletic theory for the development of modern chicken. **5.0**
- c) What are the assessment criteria of birds for the development of meat type chicken. **10.0**
  
2. a) For selecting a birds for egg purpose discuss the basic points with example. **8.0**
- b) What is selection index? Calculate the Osborne index with the following information  
Egg production of 60 wks age on pullet is given below. These pullets are the offspring of 4 sires mated to two dams each and having 3 progeny from a single hatch. **12.0**

Sire	Dam	Progeny Egg production		
		1	2	3
1	1	249	239	237
	2	243	241	234
2	1	243	260	234
	2	265	251	245
3	1	241	244	271
	2	255	253	255
4	1	240	243	254
	2	256	242	188

The flock average is 250 eggs and heritability of e production is 0.30. Calculate Osborne index value of each bird for selecting the top ranking females. Draw your valid conclusion, ( $b_1=1.143$  and  $b_2= 1.524$ ).

Or,

Develop a multitrait selection index (SI) for the objective of meat production in order to select best top chicken.

3. a). Distinguish between general combining ability and specific combining ability . **5.0**
- b) Write in detail how you will develop a commercial layer. **10.0**
- c) Explain the term reciprocal recurrent selection and effective population size. **5.0**



Chittagong Veterinary and Animal Sciences University (CVASU)

Department of Dairy and Poultry Science

MS in Poultry Science

Final Exam 2017

First Semester (Jan to Jun)

Course Title: Marketing of Poultry and Poultry Products

Course Code: MPP-601

Total Marks: 40, Time: 2.00 Hours

**Instructions:**

1. Answers should be *specific and brief*.
2. All parts of a single question need to be answered without breaking the sequence.

**Mandatory Part (Marks: 10)**

Answering to these questions is mandatory

1. Discuss the history of Poultry Industry in Bangladesh.	5
2. Discuss Vertical Integration. Criticize whether vertical integration can be implemented in Bangladesh.	5

**Selective Part (Marks: 30)**

Please answer to any 3 (three) from the below questions:

1. A. Name the Poultry Products available in Bangladesh. Show the importance of Poultry Products. B. Show the reasons for the increase of the demand of the Poultry Products. C. "Marketing is a process by which companies create value for customers and build strong customer relationships to capture value from customers in return"- Explain it.	3 2 5
2. A. Identify 4 Pillars of Marketing Concept. B. Does Marketing add value? Justify your answer. C. Show how Macro Environment impacts a Poultry Farm?	2 3 5
3. Suppose you are working for Marketing of CP "Ready to Cook" food. A. Propose some ideas on how to increase the Value of your product. B. Develop a chain to distribute your product to the consumers.	5 5
4. A. Demonstrate a typical Marketing System of the Poultry industry. B. Hypothetically select ONE company or organization or institution. Show the 7 Ps of that company or organization or institution. C. Propose your recommendations for Future Policy Direction after discussing the challenges of the Poultry industry.	3 3 4
5. A. What are the market risks? B. Show the basic Risk Management Strategies? C. How do you calculate ROI? D. You have two Strategic Business Units (SBU). First year calculation says one is giving 25% ROI and another one is giving 15% ROI. Which one is better and why?	1 3 3 3



**Chittagong Veterinary and Animal Sciences University**  
**MS in Poultry Science Final Examination**  
**January to June Semester 2017**  
**Subject: Ducks and Specialized Fowl Production-Theory**  
**Course Code: DSF-601**  
**Total Marks: 40. Time: 02 hours**

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

1. a). Discuss the prospect of rearing duck over chicken in Bangladesh 3  
b). State the economic traits of commercial importance for selection of meat type duck 3  
c). **Mention the dissimilarities of Muscovy duck in compared to Mallard duck** 2
  
2. a). State the special characteristics of quail, guineafowl and pigeon farming 4  
b). 'Quail farming is better than chicken farming'—justify this 3  
c). '**Chinese fowl is a variety**' ----- explain 1
  
3. a). Mention the strategy of lean meat and green meat production for healthy lifestyle 2  
b). State the integrated farming system with example 3  
c). **Discuss the process for ejection of avian lactation** 3
  
4. a). Give the composition of pigeon ration & calculate the feed requirement for rearing 10 pairs of breeder pigeon up to one year 3  
b). State the hatching, incubation and feeding of squab 2  
c). Discuss the breeding practices of Turkey 3
  
5. a). Narrate the brooding and rearing management of duckling, gosling and keet 4  
b). State the strategy for improving local or indigenous duck breed 3  
c). **Mention the category of Turkey** 1
  
6. **Write short notes on any five of the following : (1.6 ×5 )** 8
  - a). Animal crop
  - b). Squab
  - c). Dovecote culture
  - d). Run
  - e). Worst mother
  - f). Watch dog
  - g). Pinioning
  - h). Mule duck
  - i). Crippling disease



Chittagong Veterinary and Animal Sciences University  
Department of Physiology, Biochemistry and Pharmacology  
**MS in Pharmacology January-June Semester Final Examination-2016**  
**Course Title: General Toxicology**  
**Course Code: GTL-601**  
**Total Marks: 40.0; Time: 2 hours**

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

1. a) Define toxinology. Justify the implications of forensic and regulatory toxicology in medical science. 3.0  
b) Classify the toxicant on the basis of frequency and duration of exposure and toxicity potential. 3.0  
c) Write down the mechanisms of toxicity in relation to a toxicant. 4.0
2. a) Define residual poisoning. What is the metabolic fate of a toxin? 2.0  
b) What is LD<sub>50</sub>? How LD<sub>50</sub> used to evaluate the extent of toxicity of toxicant in the body? 3.0  
c) Explain the term "Universal antidote"? How will you build up a toxicological laboratory for maintaining proper diagnostic protocols? 5.0
3. a) List the factors that influencing the toxicity of nitrate in cattle. What is the common mechanism of nitrate poisoning in cattle? 4.0  
b) Differentiate nitrate poisoning from other common toxicant which causes haemo-toxicity? 3.0  
c) What is Toxaemic Jaundice? How will you diagnose and manage the case? 3.0
4. a) Now-a-days, how human are exposed to lead poisoning? What are the symptoms you observed on that case? Write about the line of treatment of it. 5.0  
b) How will you diagnose chronic arsenic poisoning in human? Write down the clinical management of that case. 5.0
5. a) Define hazard. 1.0  
b) Write short note (any three): 9.0
  - i) Blind staggers
  - ii) Teart disease
  - iii) Common salt poisoning
  - iv) Physico-chemical properties of toxicant



January-June MS in Pharmacology Final Examination-2016  
Department of Physiology, Biochemistry and Pharmacology  
Faculty of Veterinary Medicine  
Chittagong Veterinary and Animal Sciences University  
Course Title: Chemotherapy; Course code: CHT-601  
Total Marks: 40; Time: 2.00 hours

Answer any four (4) questions from the following:

- Q1. a. Write down the mechanism of action of potentiated sulfonamides and penicillin. 5.0  
b. What are the unwanted effects of sulfonamides and penicillin on host? Write down the precaution of them. 5.0
- Q2. a. Define fluroquinolones. Write down the mechanism of action and clinical application of ciprofloxacin. 5.0  
b. Write down the mechanism of action of tetracycline. Why tetracycline is contraindicated to production and early life of development. 5.0
- Q3. a. Write down the mechanism of action of Gentamycin and Streptomycin. 5.0  
b. Write down the clinical application of Griseofulvin, Amphotericin-B and Nystatin with doses. 5.0
- Q4. a. Write down the mechanism of action of Acyclovir and Gancyclovir. 5.0  
b. Write down the clinical application of Amantadine and Ribavirin with doses. 5.0
- Q5. Write short notes on (any four): 2.5x 4 10  
a. Antiseptics and disinfectants b. Chloramphenicol c. Macrolides d. Enrofloxacin e. Cephalosporin f. Metronidazole



**Chittagong Veterinary and Animal Sciences University**

Department of Physiology, Biochemistry & Pharmacology

MS (Pharmacology)

Final Examination-2016

January – June Semester

Sub: Food Toxicology & Public health (FTP-601)

Total Marks: 40      Time: 2 hours

**Answer the following questions (Any four):**

1. a. Define Health, Hygiene & Public health. 3  
b. What do you mean by zoonoses & zoonotic disease? 2  
c. Make a list of at least ten zoonotic disease with their principal animal's involved, probable means of spread to humans & clinical manifestations in humans. 5
2. a. Differentiate food & feed. How food contamination occur generally. Identify the sources of food contamination and distinguish between them. 4  
b. Enumerate the sources of bacterial contaminations of pediatric milk & milk products. 3  
c. What causal organisms must act to cause spoilage of an undamaged shell egg? 3
3. a. Define & classify food borne disease and present them in a schematic manner. 4  
b. Outline briefly the epidemiological factors that influence the type of food-borne hazards. 3  
c. What do you mean by disease outbreak? Mention the major categories considered in developing an outbreak case definition. 3
4. a. Differentiate food security & food safety. Write down the food adulteration & public health issues in Bangladesh. 5  
b. What are the food safety basic laws? How fresh milk is usually adulterated & how artificial milk is being prepared? 5
5. **Short note : (any five)** 2 x 5 = 10  
(a) Melamine in Food; (b) Ready to eat foods; (c) Tobacco poisoning;  
(d) Antibiotic free low cholesterol egg; (e) Aquatic Biotoxins; f) HACCP



**Chittagong Veterinary and Animal Sciences University**

Department of Physiology, Biochemistry & Pharmacology

MS (Pharmacology)

Final Examination-2016

January – June Semester

Sub: Phytotoxicology (PTL-601)

Total Marks: 40      Time: 2 hours

**Answer the following questions (Any four):**

1. a. Define toxicology, phytotoxicology & zootoxicology? Why poison in plant? 3
- b. What do you mean by toxic principles & what are the toxic principle of Dhutara, Karabi & Rali with their scientific name. 3
- c. Describe common diagnosis & treatment protocol of plant poisoning. 4
2. a. What do you mean by toad stools? How many spp. of mashroom causes poisoning for human. Write their common name, genera, Spp. Family, Toxic constituents syndrome & treatment any five of them. 5
- b. Make a list of poisonous plants which effects nervous system blood circulation & causes stonmatitis in small animals . 5
3. a. How marijuana. Hemp & hashish cause poisoning in human beings write down the poisonous principal, clinical signs, treatment & prevention of them. 5
- b. Define cyanogenesis? Write down the sources, m/a, Pathogenesis, Lab diagnosis and treatment of cyanide poisoning. 5
4. a. List the estrogenic poisoning plants. Write down toxic constituent, m/a, clinical sign, diagnosis & treatment of estrogenic plant poisoning. 5
- b. Define & classify photo sensitization. List of photosensitizing agents, toxic constituent, m/a clinical sign, diagnoses & treatments of photosensitization. 5
5. a. What do you mean by arsenicals, arsenides, arsenates, arsine a arsenates? Write down the physical & chemical properties sources of exposure, primary symptoms, diagnosis and treatment of arsenic poisoning in livestock. 5
- b. How you differentiate Arsenic poisoning between human and animal health? How arsenic effect on the body enzymatic system? 5