

**Chittagong Veterinary and Animal Sciences University**  
**Dept. of Genetics and Animal Breeding**  
**M.S. in Animal Breeding and Genetics**  
**January-June semester final examination - 2016**  
**Subject: Conservation Biology & Genetic Diversity**  
**Course Code: CGD-601**  
**Total Marks: 40; Time: 2 hours**  
**Date: 08.06.2016**

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

1. a) Briefly describe broad speculation on the future of conservation biology. 5.0  
b) Write down the concepts of conservation biology. 5.0
2. a) Briefly discuss about the several types of habitat destruction. 5.0  
b) What are the causes of habitat destruction? 5.0
3. a) Write a short note about restoration ecology. 5.0  
b) How you will reintroduction Indian Peafowl in the forest of Bangladesh. 5.0
4. a) Write down the types, advantages, and disadvantages of ex-situ conservations. 5.0  
b) Explain the terms extinct, critical, and endangered. 5.0
5. a) Write down the objectives and achievement of tiger project of India in 1973. 5.0  
b) How you will make a conservation plan for White-rumped Vulture of Bangladesh. 5.0



**Chittagong Veterinary and Animal Sciences University**  
**Dept. of Genetics and Animal Breeding**  
**M.S. in Animal Breeding and Genetics**  
**January-June semester final examination - 2016**  
**Subject: Physiology of Reproduction**  
**Course Code: PHR-601**  
**Total Marks: 40; Time: 2 hours**  
**Date: 05.06.2016**

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

- |    |  |     |
|----|--|-----|
| 1. | a) How you will detect heat in farm animal?  | 5.0 |
|    | b) Write down the different stages of reproductive cycle in animal.                                  | 5.0 |
| 2. | a) Briefly discuss about the hormonal control of male and female reproduction                        | 7.0 |
|    | b) Distinguish between Pregnancy and parturition.  | 3.0 |
| 3. | a) Write a short note about sperm.   | 5.0 |
|    | b) Briefly discuss about the process of o-ogenesis.  | 5.0 |
| 4. | a) Draw and level female genital system of a cow and state its function.                             | 5.0 |
|    | b) Give a short note about pregnancy management of cow.  | 5.0 |
| 5. | a) Briefly discuss about maternal and neonatal behavior and its association with neonatal mortality. | 6.0 |
|    | b) Give a short about gastrolation.  | 4.0 |



**Chittagong Veterinary and Animal Sciences University**

M S in Animal Breeding and Genetics

January-June Semester Final Examination 2016

**Course title: Reproductive Nutrition**

Course Code: RPN-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 label the reproductive tract of a cow. Write down the effect of nutrition for good semen production from a bull and ova from a cow. **05**
- b) Compute a ration with the available feed ingredients for a 200 days pregnant cow having 400 kg live weight, which produces 12 liter milk/day with 4% fat. **10**
- c) List of the feeding standards those are used for poultry ration. Discuss any of them with its limitation. **05**
2. a) What is fertility? Describe the biological framework traits those determine the cow herd fertility. **07**
- b) Write in brief that how you will analyze the dairy herd fertility. **07**
- c) Describe the reproductive pattern of a doe and ewe. **06**
3. a) What is value of milk? Write in brief the causes of variation in the yield and composition of milk from cow. **05**
- b) Write down the management of a bull during pre-breeding and breeding season. **05**
- c) State the term useful life. Narrate a ration for a 4 years old bull having 900 kg live weight and dairy live weight gain is 350g and are used for natural service twice a week and produce 10ml semen per ejaculation. **10**



**Chittagong Veterinary and Animal Sciences University**

M S in Animal Breeding and Genetics

January-June Semester Final Examination 2016

**Course title: Animal Breeding Principles & Systems**

Course Code: ABP-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) List of the three eminent scientists with their contributions to animal improvement. **05**  
b) Environment is important factors for the expression of a genotypic value **05**  
    –explain it with example.  
c) What is heritability? Write down the methods for the estimation of heritability value for a given trait. State the importance of heritability value estimation. **10**
  
2. a) What is correlated trait? Design how will you improve the correlated traits in dairy development. **10**  
b) Define heterosis. Explain different types of heterosis with example(s). **05**  
c) Write the steps for the development of breeding objective using profit equation. **05**
  
3. a) What is genetic gain? Write in brief the estimation of genetic gains for milk yield of cow by using path ways of selection when the reproductive technique MOET is implemented. **10**  
b) Explain the term of genetic merit. Develop selection index for selection breeding bulls using progeny testing breeding scheme. **10**



**Chittagong Veterinary and Animal Sciences University**  
**MS in Animal Breeding and Genetics**  
**January to June Semester Final Examination-2016**  
**Course Title: Breeding for Disease Resistance in Farm Animals**  
**Course code: BDR-601**  
**Full marks-40, Time-2 hours**  
**Date: 15.06.2016**

1. How disease resistance differ from disease resilience? List the different genetic disorder of Horse? Are those disorders controllable? Justify your answer? 10
2. "Infertility is not sterility" briefly clarify your answer? 10
3. a) Illustrate the host resistance to ticks? 03  
b) How will you control tick infestation through increasing resistance by application of breeding knowledge? 07
4. Is disease resistance poultry production for productive traits possible? Logically describe your answer? 10
5. "A margin asset for sustainable livestock production under trypanosomosis risk"- discuss briefly? 10
6. Write down short note on (any two): 10
  - i) Class switching
  - ii) Embryonic mortality
  - iii) Clonal selection

135.



**Chittagong Veterinary and Animal Sciences University**

**MS in Animal Breeding and Genetics**

(January-June semester) Final Examination-2016

**Course: Genetics; Course code: GNT-601**

Total marks: 40; Time: 2 hours

Date: 02/06/2016

Answer **any four** questions; Figure in the right margin indicate the full mark

1. (a) Write down the genomic and splicing view in defining a gene. 2
- (b) Suppose two alleles (R, r) occur in incomplete dominant and two alleles (A, B) occur in codominant state, explain- how these conditions modify the ratios of Mendelian inheritance. 4
- (c) *TCEB3* is a novel cow gene comprising 11 coding exons. Describe how a mature mRNA for *TCEB3* protein is produced from a transcript. 4
2. (a) Briefly describe the chemical and molecular structure of a eukaryotic chromosome? 4
- (b) Briefly describe the special types chromosomes found in the nuclei of the salivary gland cells of the larvae of *Drosophila* and growing oocyte of animals. 4
- (c) Define karyotype and idiogram. What kind of chromosome may be found in addition to the normal karyotype of wild population of animals? 2
3. (a) How does polyploidy occur in a natural population? Write down the significances of polyploidy. 3
- (b) Explain- how sex is determined by sex chromosome mechanism? 5
- (c) Define haplotype and linkage disequilibrium. 2
4. (a) Briefly describe changes in structure of chromosome. 4
- (b) What are the molecular basis of gene mutation and explain how they cause mutation. 4
- (c) Define loss-of-function (LoF) variant. Why LoF is more deleterious? 2
5. (a) Define population in genetic sense. Write in short about "population bottleneck". 4
- (b) What is Hardy-Weinberg equilibrium? List the five forces that disturb Hardy-Weinberg equilibrium with possible explanations. 4
- (c) Write in short about "Penetrance". 2



Chittagong Veterinary and Animal Sciences University  
M S January – June Semester Final Examination – 2016  
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) State the chemical structure of milk coagulum. 2  
b) What is the mechanism of di-acetyl formation during preparation of aromatic dairy products? 4  
c) State the detail composition of milk in a diagram. 4
2. a) State the nutritive value of lactose. What are the natural sources of lactose? 4  
b) Briefly describe the lactose biosynthesis process. 4  
c) Briefly describe the fate of lactose during yoghurt preparation. 2
3. a) Briefly describe the chemical changes occurred during ghee preparation. 4  
b) What are the morphological changes observed during churning of cream for butter preparation? 6
4. a) 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) Classify milk proteins with their composition. 2  
b) Describe the role of casein in coagulum based dairy products. 4  
c) Draw the chemical structure of casein. 4



TABLE -5. F. DISTRIBUTION\*

Values of  $F_{0.5; v_1, v_2}$

$v_1$	1	2	3	4	5	6	7	8	9	10	12	15	20	24	30	40	60	120	$\infty$
1	161.4	199.5	215.7	224.6	230.2	234.0	236.8	238.9	240.5	241.9	243.9	245.9	248.0	249.1	250.1	251.1	252.2	253.3	254.3
2	18.51	19.00	19.16	19.25	19.30	19.33	19.35	19.37	19.38	19.40	19.41	19.43	19.45	19.45	19.46	19.47	19.48	19.49	19.50
3	10.13	9.55	9.28	9.12	9.01	8.94	8.89	8.85	8.81	8.79	8.74	8.70	8.66	8.64	8.62	8.59	8.57	8.55	8.53
4	7.71	6.94	6.59	6.39	6.26	6.16	6.09	6.04	6.00	5.96	5.91	5.86	5.80	5.77	5.75	5.72	5.69	5.66	5.63
5	6.61	5.79	5.41	5.19	5.05	4.95	4.88	4.82	4.77	4.74	4.68	4.62	4.56	4.53	4.50	4.46	4.43	4.40	4.36
6	5.99	5.14	4.76	4.53	4.39	4.28	4.21	4.15	4.10	4.06	4.00	3.94	3.87	3.84	3.81	3.77	3.74	3.70	3.67
7	5.59	4.74	4.35	4.12	3.97	3.87	3.79	3.73	3.68	3.64	3.57	3.51	3.44	3.41	3.38	3.34	3.30	3.27	3.23
8	5.32	4.46	4.07	3.84	3.69	3.58	3.50	3.44	3.39	3.35	3.28	3.22	3.15	3.12	3.08	3.04	3.01	2.97	2.93
9	5.12	4.26	3.86	3.63	3.48	3.37	3.29	3.23	3.18	3.14	3.07	3.01	2.94	2.90	2.86	2.83	2.79	2.75	2.71
10	4.96	4.10	3.71	3.48	3.33	3.22	3.14	3.07	3.02	2.98	2.91	2.85	2.77	2.74	2.70	2.66	2.62	2.58	2.54
11	4.84	3.98	3.59	3.36	3.20	3.09	3.01	2.95	2.90	2.85	2.79	2.72	2.65	2.61	2.57	2.53	2.49	2.45	2.40
12	4.75	3.89	3.49	3.26	3.11	3.00	2.91	2.85	2.80	2.75	2.69	2.62	2.54	2.51	2.47	2.43	2.38	2.34	2.30
13	4.67	3.81	3.41	3.18	3.03	2.92	2.83	2.77	2.71	2.67	2.60	2.53	2.46	2.42	2.38	2.34	2.30	2.25	2.21
14	4.60	3.74	3.34	3.11	2.96	2.85	2.76	2.70	2.65	2.60	2.53	2.46	2.39	2.35	2.31	2.27	2.22	2.18	2.13
15	4.54	3.68	3.29	3.06	2.90	2.79	2.71	2.64	2.59	2.54	2.48	2.40	2.33	2.29	2.25	2.20	2.16	2.11	2.07
16	4.49	3.63	3.24	3.01	2.85	2.74	2.66	2.59	2.54	2.49	2.42	2.35	2.28	2.24	2.19	2.15	2.11	2.06	2.01
17	4.45	3.59	3.20	2.96	2.81	2.70	2.61	2.55	2.49	2.45	2.38	2.31	2.23	2.19	2.15	2.10	2.06	2.01	1.96
18	4.41	3.55	3.16	2.93	2.77	2.66	2.58	2.51	2.46	2.41	2.34	2.27	2.19	2.15	2.11	2.06	2.02	1.97	1.92
19	4.38	3.52	3.13	2.90	2.74	2.63	2.54	2.48	2.42	2.38	2.31	2.23	2.16	2.11	2.07	2.03	1.98	1.93	1.88
20	4.35	3.49	3.10	2.87	2.71	2.60	2.51	2.45	2.39	2.35	2.28	2.20	2.12	2.08	2.04	1.99	1.95	1.90	1.84
22	4.30	3.44	3.05	2.82	2.66	2.55	2.46	2.40	2.34	2.30	2.23	2.15	2.07	2.03	1.98	1.94	1.89	1.84	1.78
24	4.26	3.40	3.01	2.78	2.62	2.51	2.42	2.36	2.30	2.25	2.18	2.11	2.03	1.98	1.94	1.89	1.84	1.79	1.73
26	4.23	3.37	2.98	2.74	2.59	2.47	2.39	2.32	2.27	2.22	2.15	2.07	1.99	1.95	1.90	1.85	1.80	1.75	1.69
28	4.20	3.34	2.95	2.71	2.56	2.45	2.36	2.29	2.24	2.19	2.12	2.04	1.96	1.91	1.87	1.82	1.77	1.71	1.65
30	4.17	3.32	2.92	2.69	2.53	2.42	2.33	2.27	2.21	2.16	2.09	2.01	1.93	1.89	1.84	1.79	1.74	1.68	1.62
40	4.08	3.23	2.84	2.61	2.45	2.34	2.25	2.18	2.12	2.08	2.00	1.92	1.84	1.79	1.74	1.69	1.64	1.58	1.51
60	4.00	3.15	2.76	2.53	2.37	2.25	2.17	2.10	2.04	1.99	1.92	1.84	1.75	1.70	1.65	1.59	1.53	1.47	1.39
120	3.92	3.07	2.68	2.45	2.29	2.17	2.09	2.02	1.96	1.91	1.83	1.75	1.66	1.61	1.55	1.50	1.43	1.35	1.25
$\infty$	3.84	3.00	2.60	2.37	2.21	2.10	2.01	1.94	1.88	1.83	1.75	1.67	1.57	1.52	1.46	1.39	1.32	1.22	1.00

For other values of  $v_1$  and  $v_2$  one may use linear interpolation, taking  $1/v_1$  and  $1/v_2$

For other values of  $v_1$  and  $v_2$  one may use linear interpolation, taking  $1/v_1$  and  $1/v_2$  as the independent variables.

$v_1$	1	2	3	4	5	6	7	8	9	10	12	15	20	24	30	40	60	120	$\infty$
1	4052	4999.5	5403	5625	5764	5859	5928	5982	6022	6056	6106	6157	6209	6235	6261	6287	6313	6339	6366
2	98.50	99.00	99.17	99.25	99.30	99.33	99.36	99.37	99.39	99.40	99.42	99.43	99.45	99.46	99.47	99.48	99.49	99.50	99.50
3	34.12	30.82	29.46	28.71	28.24	27.91	27.67	27.49	27.35	27.23	27.05	26.87	26.69	26.60	26.50	26.32	26.22	26.13	26.13
4	21.20	18.00	16.69	15.98	15.52	15.21	14.98	14.80	14.66	14.55	14.37	14.20	14.02	13.93	13.84	13.65	13.56	13.46	13.46
5	16.26	13.27	12.06	11.39	10.97	10.67	10.46	10.29	10.16	10.05	9.89	9.72	9.55	9.47	9.38	9.29	9.20	9.11	9.02
6	13.75	10.92	9.78	9.15	8.75	8.47	8.26	8.10	7.98	7.87	7.72	7.56	7.40	7.31	7.23	7.06	6.97	6.88	6.88
7	12.25	9.55	8.45	7.85	7.46	7.19	6.99	6.84	6.72	6.62	6.47	6.31	6.16	6.07	5.99	5.82	5.74	5.65	5.65
8	11.26	8.65	7.59	7.01	6.63	6.37	6.18	6.03	5.91	5.81	5.67	5.52	5.36	5.28	5.20	5.12	5.03	4.95	4.86
9	10.56	8.02	6.99	6.42	6.06	5.80	5.61	5.47	5.35	5.26	5.11	4.96	4.81	4.73	4.65	4.57	4.48	4.40	4.31
10	10.04	7.56	6.55	5.99	5.64	5.39	5.20	5.06	4.94	4.85	4.71	4.56	4.41	4.33	4.25	4.17	4.08	4.00	3.91
11	9.65	7.21	6.22	5.67	5.32	5.07	4.89	4.74	4.63	4.54	4.40	4.25	4.10	4.02	3.94	3.86	3.78	3.69	3.60
12	9.33	6.93	5.95	5.41	5.06	4.82	4.64	4.50	4.39	4.30	4.16	4.01	3.86	3.78	3.70	3.62	3.54	3.45	3.36
13	9.07	6.70	5.74	5.21	4.86	4.62	4.44	4.30	4.19	4.10	3.96	3.82	3.66	3.59	3.51	3.43	3.34	3.25	3.17
14	8.86	6.36	5.42	4.89	4.56	4.32	4.14	4.00	3.89	3.78	3.64	3.50	3.34	3.27	3.19	3.10	3.01	2.92	2.87
15	8.68	6.36	5.42	4.89	4.56	4.32	4.14	4.00	3.89	3.78	3.64	3.50	3.34	3.27	3.19	3.10	3.01	2.92	2.87
16	8.53	6.23	5.29	4.77	4.44	4.20	4.03	3.89	3.78	3.69	3.55	3.41	3.26	3.18	3.10	3.02	2.93	2.84	2.75
17	8.40	6.11	5.18	4.67	4.34	4.10	3.93	3.79	3.68	3.59	3.46	3.31	3.16	3.08	3.00	2.92	2.84	2.75	2.65
18	8.29	6.01	5.09	4.58	4.25	4.01	3.84	3.71	3.60	3.52	3.37	3.23	3.09	3.00	2.92	2.84	2.76	2.67	2.57
19	8.18	5.93	5.01	4.50	4.17	3.94	3.77	3.64	3.52	3.43	3.28	3.15	3.00	2.92	2.84	2.76	2.67	2.58	2.49
20	8.10	5.85	4.94	4.43	4.10	3.87	3.70	3.57	3.45	3.36	3.21	3.08	2.94	2.86	2.78	2.69	2.61	2.52	2.42
22	7.95	5.72	4.82	4.31	3.99	3.76	3.59	3.46	3.34	3.25	3.10	2.97	2.83	2.75	2.67	2.58	2.50	2.41	2.31
24	7.82	5.61	4.72	4.21	3.90	3.67	3.50	3.37	3.25	3.16	3.01	2.88	2.74	2.66	2.58	2.49	2.41	2.31	2.21
26	7.72	5.53	4.64	4.13	3.82	3.59	3.42	3.29	3.17	3.08	2.93	2.80	2.66	2.58	2.50	2.41	2.33	2.23	2.13
28	7.64	5.45	4.57	4.06	3.75	3.53	3.36	3.23	3.11	3.02	2.87	2.74	2.60	2.52	2.44	2.35	2.27	2.17	2.06
30	7.56	5.39	4.51	4.00	3.70	3.47	3.30	3.17	3.05	2.96	2.81	2.68	2.54	2.46	2.37	2.29	2.21	2.11	2.01
40	7.31	5.18	4.31	3.80	3.51	3.29	3.12	2.99	2.87	2.78	2.63	2.50	2.36	2.28	2.20	2.11	2.02	1.92	1.80
60	7.08	4.98	4.13	3.62	3.34	3.12	2.95	2.79	2.66	2.57	2.42	2.29	2.15	2.07	2.00	1.91	1.82	1.73	1.60
120	6.85	4.79	3.95	3.48	3.17	2.96	2.79	2.64	2.51	2.41	2.26	2.13	2.00	1.92	1.84	1.75	1.66	1.53	1.38
$\infty$	6.63	4.61	3.78	3.32	3.02	2.80	2.64	2.51	2.41	2.32	2.17	2.04	1.88	1.79	1.70	1.59	1.47	1.32	1.00

TABLE-5 (Contd.)

Values of  $F_{0.1; v_1, v_2}$



TABLE—4. t DISTRIBUTION  
Values of  $t_{\alpha, v}$

$\alpha$	Values of $t_{\alpha, v}$				
	0.05	0.025	0.01	0.005	
1	6.314	12.706	31.821	63.657	
2	2.920	4.303	6.965	9.925	
3	2.353	3.182	4.541	5.841	
4	2.132	2.776	3.747	4.604	
5	2.015	2.571	3.365	4.032	
6	1.943	2.447	3.143	3.707	
7	1.895	2.365	2.998	3.499	
8	1.860	2.306	2.896	3.355	
9	1.833	2.262	2.821	3.250	
10	1.812	2.228	2.764	3.169	
11	1.796	2.201	2.718	3.106	
12	1.782	2.179	2.681	3.055	
13	1.771	2.160	2.650	3.012	
14	1.761	2.145	2.624	2.977	
15	1.753	2.131	2.602	2.947	
16	1.746	2.120	2.583	2.921	
17	1.740	2.110	2.567	2.898	
18	1.734	2.101	2.552	2.878	
19	1.729	2.093	2.539	2.861	
20	1.725	2.086	2.528	2.845	
21	1.721	2.080	2.518	2.831	
22	1.717	2.074	2.508	2.819	
23	1.714	2.069	2.500	2.807	
24	1.711	2.064	2.492	2.797	
25	1.708	2.060	2.485	2.787	
26	1.706	2.056	2.479	2.779	
27	1.703	2.052	2.473	2.771	
28	1.701	2.048	2.467	2.763	
29	1.699	2.045	2.462	2.757	
30	1.697	2.042	2.457	2.751	
40	1.684	2.021	2.423	2.723	
60	1.671	2.000	2.390	2.690	
120	1.658	1.980	2.360	2.660	
$\infty$	1.645	1.960	2.345	2.645	

TABLE—3  $\chi^2$  DISTRIBUTION\*  
Values of  $\chi^2_{\alpha, v}$

$\alpha$	Values of $\chi^2_{\alpha, v}$				
	0.995	0.99	0.975	0.95	0.905
1	0.000	0.000	0.004	0.004	7.879
2	0.010	0.020	0.103	0.103	10.597
3	0.072	0.115	0.352	0.352	12.838
4	0.207	0.297	0.484	0.711	14.860
5	0.412	0.554	0.831	1.145	16.750
6	0.676	0.872	1.237	1.635	18.548
7	0.989	1.239	1.690	2.167	20.278
8	1.344	1.646	2.180	2.733	21.955
9	1.735	2.088	2.700	3.325	23.589
10	2.156	2.558	3.247	3.940	25.188
11	2.603	3.053	3.816	4.575	26.757
12	3.074	3.571	4.404	5.226	28.300
13	3.565	4.107	5.009	5.892	29.819
14	4.075	4.660	5.629	6.571	31.319
15	4.601	5.229	6.262	7.261	32.801
16	5.142	5.812	6.908	7.962	34.267
17	5.697	6.408	7.564	8.672	35.718
18	6.265	7.015	8.231	9.390	37.156
19	6.844	7.633	8.907	10.117	38.582
20	7.434	8.260	9.591	10.851	39.997
21	8.034	8.897	10.283	11.591	41.401
22	8.643	9.542	10.982	12.338	42.796
23	9.260	10.196	11.688	13.091	44.181
24	9.886	10.856	12.401	13.848	45.558
25	10.520	11.524	13.120	14.611	46.928
26	11.160	12.198	13.844	15.379	48.290
27	11.808	12.879	14.573	16.151	49.645
28	12.461	13.565	15.308	16.928	50.993
29	13.121	14.256	16.047	17.708	52.336
30	13.787	14.953	16.791	18.493	53.672
40	20.706	22.164	24.433	26.509	66.766
50	27.991	29.707	32.357	34.764	79.490
60	35.535	37.485	40.482	43.188	91.952
70	43.275	45.442	48.758	51.739	104.215
80	51.172	53.540	57.153	60.391	116.321
90	59.196	61.754	65.647	69.126	128.299
100	67.328	70.065	74.222	77.929	140.169



Chittagong Veterinary and Animal Sciences University  
M S January – June Semester Final Examination – 2016

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) State the superiority of functional food on other food items. 2
- b) Briefly describe the significant bioactive functions of milk derived functional food. 4
- c) Enumerate the cardiovascular functions of dairy ingredients. 4
2. a) Tabulate the dairy products having potential health benefits. 4
- b) Briefly describe the role of the dairy components as functional ingredients. 4
- c) What are the milk components having the ability to prevent cancers? 2
3. a) What <sup>are</sup> the role of the dairy food in reducing blood cholesterol level? 4
- b) Define probiotics with examples. State the role of cheese as calcium supplement in human diet. 6
4. a) What is lactoferrin? 2
- b) Enumerate the beneficial effects of lactoferrin in human body. 4
- c) Briefly describe the effects of dietary milk peptides. 4
5. a) Enlist the milk components having opioid like effects. 2
- b) Illustrate the functions of milk components having immunomodulatory effect. 4
- c) What are the natural antimicrobials present in milk? Briefly discuss their effects. 4



**Chittagong Veterinary and Animal Sciences University**  
**Dept. of Dairy and Poultry Science**  
**MS in Poultry Science Final Examination**  
**Semester: January-June, 2016**  
**Course Title: Poultry Processing and Products Technology (PPT-601)**  
**Total marks- 40; Time: 2 Hours**

Answer any five questions of the following wherein question no. 1 is compulsory; Each question has equal marks. Figures in the right margin indicate full marks.

1. a) What is egg? State the nutritional composition and food value of poultry eggs of different species. 4
- b) Describe the important parameters with which you can assess the quality of poultry meat and eggs in a nutshell. 4
2. a) What is simmering? State the various categories of processed meat products with examples. 4
- b) Define aging? Describe the different problems of muscle encountered after slaughtering of birds. 4
3. What is poultry carcass grading? Describe the standards or mechanisms of grading poultry (live, ready-to-cook, small/large scale operation) for marketing. 8
4. a) Enumerate the poultry products (meat and egg) available in the supermarket. 3
- b) Write down the industrial utilization and bakery uses of eggs and state the procedure of manufacturing Turkey Ham, Turkey Salami and Pickle Pimento Loaf. 5
5. Sketch the poultry processing plant. Describe the important steps of broiler processing plant. 8
6. a) Mention the different methods of preservation and storage of poultry meat and eggs. 2
- b) Describe three common methods of preserving poultry meats and eggs respectively. 6
7. Give short note (any four) of the following (2 x 4 = 8): 8
  - a) Balut
  - b) Chicken Nuggets
  - c) Bio-preservation & Hurdle Technology
  - d) Meat binder and fillers
  - e) Pasteurized liquid eggs
  - f) Ante-mortem and post-mortem inspection of poultry



Chittagong Veterinary & Animal Sciences University  
Department of Dairy & Poultry Sciences

M.S in Poultry Science

January - June Semester, 2016

Sub: Poultry Farm Planning & Management

Total Marks - 40

Time ——— 02 (Two hrs)

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

1. (a) State the basic concept of "Farm Planning". 03  
(b) How can you evaluate the feasibility of planning of an intensive layer farm? 03  
(c) State the general considerations of a farm planning. 04
2. (a) What do you mean by "Biosecurity of a Poultry Farm"? 03  
(b) How does it differ from biosecurity of a hatchery? 03  
(c) State the common practices of hygienic measures of a commercial broiler farm. 04
3. (a) What are the prime factors needed to make a breeding farm profitable? 03  
(b) State the common infrastructure needed in a poultry breeding farm. 03  
(c) Write a note on "Breeding farm management". 04
4. (a) State the relationship between production and environment. 03  
(b) What are the common techniques of keeping environmental pollution reasonable in an intensive layer farming? 03  
(c) Write a note on "Preparation of ~~waste litter~~ manure from used litter" 04
5. Write short note (any four) 4 x 2.5 = 10.
  - (a) Techniques of market identification;
  - (b) Systems of poultry production under intensive farming;
  - (c) Requirements of a region to be a poultry zone;
  - (d) Capital investment in a breeding farm;
  - (e) Recurrent expenditures in a commercial farm;
  - (f) Equity in establishing infrastructures;
  - (g) Calculation of "Depreciation Cost" for net income.



**Chittagong Veterinary and Animal Sciences University**  
**Dept. of Dairy and Poultry Science**  
**MS in Poultry Science Final Examination**  
**Semester: January-June, 2016**  
**Course Title: Ducks and Specialized Fowl Production (DSF-601)**  
**Total marks- 40; Time: 2 Hours**

Answer any five questions of the following wherein question no. 1 is compulsory; Each question has equal marks. Figures in the right margin indicate full marks.

1. What is integrated farming? Describe a strategy that you would adopt to do proper use of space and poultry wastes for meeting high demand of protein for the consumers. 8
2. i) What strategies would you adopt to popularize turkey production in Bangladesh? 4  
ii) Describe the feeding and housing system of turkey. 4
3. i) Classify breeds of geese on the basis of body weight and describe two of them. 4  
ii) State the feeding and fattening management of geese 4
4. i) "Pigeon farming for profitable squab production is feasible in Bangladesh"-do you agree with this statement? Justify 4  
ii) Describe breeding and rearing management of pigeon. 4
5. Rearing of quail in the cage system is preferable to floor system- Why? Rearing quail is more profitable than chicken- discuss it. 8
6. Which system of duck rearing is suitable in our country and why? What are the duck production systems practiced in Southeast Asia. Briefly describe. 8
7. Mention the prospect and problems of guineafowl production in Bangladesh. Discuss the brooding and rearing management of keet and guineafowl. 8