

Chittagong Veterinary and Animal Sciences University

M S in Animal Breeding and Genetics

January-June Semester Final Examination 2015

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) What do you mean by dairy industry structure? Briefly state the Nucleus breeding scheme with its advantages. **10**
b) Differentiate heritability from repeatability? Describe a method for the estimation of heritability value for a given trait with its limitation. **10**
2. a) Construct a multitrait selection index for selecting cows under milk production objective. **12**
b) What is marker assisted selection (MAS)? Write down the steps for marker assisted selection and state the advantages and disadvantages of MAS. **08**
3. a) What is heterosis? State different kinds of heterosis with example (s). **05**
b) Define genetic gain. Write in brief for the estimation of genetic gains for milk yield of cows by using four path way of selection when the reproductive technique MOET is implemented. **10**
c) Discuss the impact of AI and genetic engineering on genetic gain of a trait. **05**

Chittagong Veterinary and Animal Sciences University

M S in Animal and Poultry Nutrition

January-June Semester Final Examination 2015

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) What is nutrition? Write down the effect of nutrition for the development and functions of male reproductive tract of a bull. 7
- b) Enumerate nutritional requirement of a 200 days pregnant cow having 350kg live weight and daily milk yield is 12 liter. 8
- c) Mention 4 feeding standards those are using for cattle ration. Describe any one of them with its limitation. 5
2. a) Describe the biological framework those determine the herd fertility of cows. 7
- b) State how will you analyze the dairy herd fertility under a structured dairying condition. 8
- c) Describe the techniques to control the reproductive events of a dairy herd. 5
3. a) What is the value of milk? Briefly describe the causes of variation in the yield and composition of milk from cow. 8
- b) State the characteristics of a breeding bull. Compute a ration for 3.5 years old growing bull, whose live weight and weight gain is 450 kg, 400g/d, respectively. This bull produces 10ml semen/ejaculation and joins with two cows per week. 12

Chittagong Veterinary and Animal Sciences University
MS in Animal Breeding and Genetics
Jan-June Semester Final Examination-2015
Course: Breeding for Disease Resistance in Farm Animals
Course Code: BDR-601
Full Marks: 40; Time: 2 hours

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

1. a) Distinguish between disease resistance and resilience 3.0
b) Explain pre-natal and post-natal mortality in farm animals. 7.0
2. a) What is repeat breeding? 2.0
b) State the genetic and environmental cause of infertility and sterility in males and females. 8.0
3. a) What is model? Classify model on the basis of use. 4.0
b) Describe the various modeling approaches with an example of mastitis. 6.0
4. a) What is major histocompatibility complex? 3.0
b) Write about the structure of antibodies and describe the rearrangements of B lymphocyte differentiation. 7.0
5. a) Explain host resistant to tick and tick borne diseases in livestock. 4.0
b) Write down the breeding approaches for resistance to production diseases in livestock. 6.0

1, 2, 4, 5 (1)

Chittagong Veterinary and Animal Sciences University
MS in Animal Breeding and Genetics
Jan-June Semester Final Examination-2015
Course: Genetics
Course Code: GNT-601
Full Marks: 40; Time: 2 hours

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

1. a) Who is Mendel? State the first and second laws of Mendel. 4.0
b) The ratios of Mendelian Inheritance can be changed by some factors- briefly describe about those factors. 6.0
2. a) Write down the characteristics of genetic materials. 2.0
b) Describe how a DNA molecule is formed from a mother DNA molecule. 4.0
c) Giant DNA molecule package in a chromosome- Explain. 4.0
3. a) Define sex-determination. Classify the mechanism of sex-determination with examples. 7.0
b) Write down about different types of banding patterns. 3.0
4. a) What are the methods of bacterial recombination? Explain transduction. 4.0
b) State the Hardy-Weinberg law with the steps of estimating gene frequencies. How you can probe that whether the population in equilibrium condition or not? Mention the implication of Hardy- Weinberg equilibrium. 6.0
5. a) How can you explore the chromosome sets of an animal cell? 4.0
b) What is tissue culture? What are the purposes of tissue culture in genetic study? 3.0
c) What are the considerations you should take during culturing of tissue for genetic purpose? 3.0

Chittagong Veterinary and Animal Sciences University

MS in Animal Breeding and Genetics

Jan-June Semester Final Examination-2015

Course: Genetics

Course Code: GNT-601

Full Marks: 40; Time: 2 hours

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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

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 Semes
Sub: Dairy Technology Theory

Course Code: DTL 601

Total marks: 40

Time : 2 (two) hours

Answer any 5/5 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? 2
3. (a) State the common flavorings used in ice cream manufacture across the globe. Which one of them is of maximum consumer preference? 2
- (b) How do the quality of the important ingredients influence quality of ice cream? 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 across 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) $2 \times 4 = 8$
 - (a) Cholesterol & triglycerides in dairy products
 - (b) Clabbered milk and yoghurt
 - (c) Starter cheeses
 - (d) Common defects of ghee