

**Chattogram Veterinary and Animal Sciences University**  
**Faculty of Veterinary Medicine**  
**Department of Medicine and Surgery**  
**M.S. in Medicine**  
**Semester Final Examination – 2019**  
**Semester: July – December 2019**  
**Subject: Zoo and Wild Animal Medicine**  
**Course Code: ZWM 602; Credit: 2**  
**Total Marks: 40**  
**Time: 02 (Two) Hours**

{Figures in the right margin indicate full marks. Answer any 04 (FOUR) questions}

1. (a) Write down the general principles of treatment and control of diseases in Zoo and Wild Animals. 05  
  
(b) Write down the role of insectivorous bats in spreading the Nipha virus infection to human. 05
2. Write down the etiology, transmission, clinical signs, pathognomic post - mortem lesions, diagnosis, treatment, prevention, control, and zoonotic importance of Equine Influenza in Zebra. 10
3. (a) Write down the etiology, signs and lesions, diagnosis and treatment of Tuberculosis in spotted hyena. 05  
  
(b) Describe the clinical signs, treatment and control of salmonellosis in the juvenile wallaby. 05
4. (a) A dead deer of 5 months old deer came to you with history of lameness. On post mortem examination, you saw stripped lesion over myocardium. What is your presumptive diagnosis? What is your advice to owner for rest of the healthy ones? (01+04)=05  
  
(b) Write down the etiology, clinical signs, and treatment of tetanus in Rhesus monkey. 05
5. Describe the etiology, transmission, clinical signs, pathognomic post – mortem lesions, diagnosis, treatment, prevention, control, and zoonotic importance of Anthrax in Asian Elephant (*Elephas maximus*). 10
6. (a) Describe the etiology, clinical findings, and treatment of Sarcoptic mange infestation in Llama. 05  
  
(b) Write down the etiology, mode of transmission, lesions, and treatment of Gray patch disease in Green sea turtle (*Chelonia mydas*). 05

**Chattogram Veterinary and Animal Sciences University**  
**Faculty of Veterinary Medicine**  
**Department of Medicine and Surgery**  
**MS in Medicine**  
**Semester: July-December 2019**  
**Subject- Pet Animal Medicine**  
**Course code: PAM-602**  
**Total marks – 40**  
**Time – 2 (Two) hours**

(Figures in the right margin indicate full marks. Answer any **FOUR** questions)

1. (a) Describe following terms: (a) Blue eye (b) Pinna-pedal reflex. **04**  
(b) Write down the deworming and vaccination schedule of dogs and cats. **06**
2. Write down the etiology, clinical signs, treatment and prevention of canine distemper. **10**
3. (a) Write down the clinical signs of canine leptospirosis and canine rabies. **05**  
(b) Acetaminophen poisoning-why is it fatal in cats and how can you treat it? **05**
4. Write down the etiology, clinical signs, diagnosis, treatment and control of feline panleukopenia. **10**
5. (a) Describe the treatment of canine parvovirus infection and Kennel cough. **06**  
(b) Write down the clinical signs of canine heartworm infestation and Feline infectious peritonitis. **04**
6. Write short notes on enterotoxemia in rabbits and Tropical canine pancytopenia. **10**

**Chattogram Veterinary and Animal Sciences University**  
**Department of Medicine and Surgery, Faculty of Veterinary Medicine**  
**MS in Medicine, July-December Semester-2019**  
**Subject: Food Animal Medicine II (FAM-602), Total marks: 40, Time-2 (two) hours**

*(Figure in the right margin indicates full marks. Answer any **FOUR** questions)*

- |    |  |        |
|----|--|--------|
| 01 | a) What is ruminal acidosis? Briefly describe the cascade of events in ruminal acidosis?                             | 03     |
|    | b) What are the main differences between the two different clinical forms of ruminal acidosis?                       | 03     |
|    | c) Write the treatment protocol ruminal acidosis using in SAQTVH, CVASU for the management of ruminal acidosis.      | 04     |
| 02 | a) Define obstructive urolithiasis (OU). What are the predisposing factors and common lodgment sites of OU in goat?  | 05     |
|    | b) Write down the Principles of diagnosis and clinical management of urinary tract dysfunctions in ruminant.         | 05     |
| 03 | a) Define following terms; Impetigo, Wheal, Macule and Parakeratosis. Briefly discuss the dermatitis in food animal. | 06     |
|    | b) Name neurological disorders caused by toxic agent and nutritional deficiencies in food animal of Bangladesh.      | 04     |
| 04 | a) Define and classify anaphylaxis. What is the initial treatment for systemic anaphylaxis?                          | 05     |
|    | b) What do you mean by hepatic dysfunction? What are the clinical manifestations of hepatic dysfunction?             | 05     |
| 05 | Write short notes on the following ( <i>any two</i> )  | 2*5=10 |
|    | I. Fibrous osteodystrophy in goat  |        |
|    | II. Abomasal displacement in cow   |        |
|    | III. Peat scours in cattle   |        |

**Good Luck**

Chattogram Veterinary and Animal Sciences University  
Faculty of Veterinary Medicine  
Department of Medicine and Surgery  
MS in Medicine Final Examination' 2019  
Semester: July - December  
**Sub: Fluid Therapy and Blood Transfusion**  
Course Code: FBT-602

Total Marks: 40

Time: 2 hours

(Figures in the right margin indicate full marks. Answer any **five** questions)

1. a. Differentiate crystalloids from colloids. 04  
b. What happens if large volume of crystalloid solution continues intra-venously? 04
2. a. How can you assess dehydration in a dog? 04  
b. Calculate the amount of fluid for a 6% dehydrated dog with body wt 20 kg. 04
3. a. Write down the pre-conditions of oral and parenteral fluid therapy. 04  
b. Write down the contraindications of different types of fluids. 04
4. a. What are the different types of electrolyte deficits? 04  
b. Briefly describe intra- and post-operative fluid therapy. 04
5. a. Write down the different blood types in dogs and cats. 04  
b. What are the indications of blood transfusion in animals? 04
6. a. Write down the selection criteria of a donor. 04  
b. List the diseases can be transmitted through blood transfusion in animals. 04
7. Write short notes (any two) on: 2×04 = 08
  - a. Cross-matching of blood
  - b. Procedure of blood transfusion
  - c. Special fluids
  - d. Transfusion reaction

# Chittagong Veterinary and Animal Sciences University

Department of Medicine and Surgery

**MS in Epidemiology July-December Semester Final Examination/2019**

**Course and Title: Risk Analysis and Policy Planning (RAP-602; 2+0)**

**Total marks: 40; Time: 2 hours**

**[Answer all questions. Figures in the right margin indicate full marks]**

- Q1. (a.)** What are the similarities and dissimilarities between NAS-NRC model and Covello-Merkhofer models of risk analysis? **4**
- (b.)** Define a couple of example risk analysis questions in cattle and show the risk pathway in sketches. **8**
- (c.)** Write down the significance of risk analysis in planning of disease surveillance? **3**
- Q2 (a.)** What do you mean by "Contingency Plan"? List the most common contents of a "Contingency Plan" for a pandemic potential disease like Avian Influenza. Briefly describe the responsibilities of different stakeholders (public and private) at any animal disease (e.g., Avian Influenza) emergency. **7**
- (b.)** What is the relationship among disease control programme, strategy and policy? **3**
- Q3. (a.)** How will you structure a buffalo milk value chain analysis? **5**
- (b.)** How do the outputs of an anthropological study along with an epidemiological and experimental economic study on an important livestock disease help farmers in disease controlling? **5**
- (c.)** How can you strengthen the capacity of veterinarians and other animal health staff to detect animal disease pandemic threat? **5**

Chattogram Veterinary and Animal Sciences University  
MS in Epidemiology  
July-December, 2109  
Subject: GIS and Molecular Technique in Epidemiology  
Course code: GMT-601

Total marks: 40, Time: 2 hours

(Figures in the right margin indicate full marks: Answer any four questions)

- |   |   |  |   |
|---|---|--|---|
| 1 | a | Define gene, genomes and DNA   | 3 |
|   | b | Explain DNA replication process  | 7 |
| 2 | a | Enlist the possible local and global statistic methods. Differentiate between vector and raster data | 5 |
|   | b | How you can model the spatial data? Describe briefly   | 5 |
| 3 | a | Define the term sticky end and blunt end, isoschizomers, linker and adapter, homopolymer tailing     | 5 |
|   | b | How insertional inactivation helps in finding right clone in case of gene cloning                    | 5 |
| 4 | a | Explain PCR process  | 7 |
|   | b | Discuss primer designing   | 3 |
| 5 | a | What is gene sequence? Explain Di de oxy method of gene sequencing                                   | 6 |
|   | b | Explain gene knockout and its implication in science   | 4 |

**Chittagong Veterinary and Animal Sciences University**

**Faculty of Veterinary Medicine**

**Department of Medicine and Surgery (DMS)**

**July-December Semester Final Examination 2019**

**Sub: Population Health; Code: POH-602**

**Full Marks: 40; Time 2 hours**

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

- Q1 a) What are the components of herd health program? Briefly describe them. 4  
b) Describe historical development of herd health as a core subject of veterinary epidemiology discipline. 6
- Q2 a) What is benchmarking? 1  
b) How will you improve the situation of subclinical acidosis in a dairy farm through benchmarking? 5  
c) What is HACCP? How can you adjust different steps to implement HACCP in calf rearing in a dairy farm? 4
- Q3 DLS is planning to expand dairy sector in Bangladesh and you are a consultant in this project? How will you take holistic approach in dairy expansion? 10
- Q4 a) Discuss economic aspects of lameness. 3  
b) Outline the general approach to monitoring and improving udder health. 4  
c) How lameness is associated with high SCC and mastitis? 3
- Q5 a) What are the strategies to develop a biosecurity plan to control infectious diseases in your dairy herd? 4  
b) In bathan system buffalo are reared in remote islands. DLS is planning to assess the welfare of animals in this rearing system. As a epidemiologist in the team, Prepare a questionnaire to evaluate the welfare situation. 6

**GOOD LUCK**

# Chittagong Veterinary and Animal Sciences University

Department of Medicine and Surgery

M.S. in Epidemiology

July-December Semester final Exam- 2019

Course Title: Animal Health Economics (Theory)

Course code: AHE-602

Total Marks: 40; Time: 2 hours

Answer any 4 (four) question from the followings.

1. Define animal health economics. Distinguish between animal health economics and epidemiology. Discuss the basic tools of farm financial analysis. 10
2. (a) Discuss the losses caused by animal disease in the economic point of view. 6  
(b) Write notes on a model for disease loss estimation. 4
3. (a) Distinguish between input and output. Discuss the rules and methods used for calculating livestock output in economic analysis. 7  
(b) A layer farm owner started a layer farm by purchasing 500 matured pullets from a hatchery farm. On average 52 weeks recorded as laying period, 10 % of laying birds died and not replaced during laying period, average egg production per bird recorded as 20 dozens, sold @ Tk. 115 per dozen. At the end of the laying period, remaining hens are culled and sold @ Tk. 270 per hen.  
**Calculate:** Annual enterprise output per hen and comment on the result? 3
4. Define disease control and prevention. Identify and discuss the costs and benefits of Brucellosis control program in context of Bangladesh. 10
5. (a) Distinguish between compounding and discounting. Briefly discuss the methods for economic analysis as an aid to decision making in the field of Animal health. 7  
(b) Five (05) years duration Mastitis disease control program to be undertaken for the development livestock production in a particular area in Bangladesh. The intended costs and benefits in lakh tk. are as follows:

<u>Year</u>	<u>Gross Costs</u>	<u>Gross Benefits</u>
1	950	0
2	450	250
3	500	650
4	750	850
5	250	1350

**Calculate:** i. BCR and ii. NPV by using rate of discount at 14 percent. Also comment on that results.



Chittagong Veterinary and Animal Sciences University  
Faculty of Veterinary Medicine  
Department of Medicine and Surgery  
MS in Surgery, Semester: July- December, 2019  
Subject: Small Animal Anaesthesiology  
Course Code: SAA 602; Credit: 2  
Total Marks: 40  
Time: 2 (Two) Hours

(Figures in the right margin indicate full marks. Answer any FOUR questions)

1. a) What are the importances of fasting of an animal before operation? Mention the fasting time ( feed and water) in different animals and birds. 5.0  
b) Write down the clinical properties and indications of the following agents in small animals- Atropine sulphate, Xylazine and Diazepam. 7.0
2. a) What are the important clinical findings usually observed during different stages of general anaesthesia? 5.0  
b) Write down the monitoring of anaesthesia technique in small animals. 5.0
3. a) Describe the intubation technique of a 20 kgs dog for inhalation anaesthesia. 5.0  
b) Mention the different parts of gaseous anaesthetic machine with their function. 5.0
4. a) Write down the general consideration for canine and feline anaesthesia. 5.0  
b) How will you diagnose cardiopulmonary arrest and resuscitate such problem? 5.0
5. a) What are the important factors usually we consider during paediatric and geriatric patients? 5.0  
b) How will you evaluate anaesthesia for selecting ocular and traumatic patients? 5.0
6. Write down the general consideration and drug used for caesarean section in a dog as well as to mention the salient points of neonatal care. 10.0

Chittagong Veterinary and Animal Sciences University  
Faculty of Veterinary Medicine  
Department of Medicine and Surgery  
MS in Surgery, Semester: July- December, 2019  
Subject: Ophthalmic Surgery  
Course Code: OPS 602; Credit: 2  
Total Marks: 40  
Time: 2 (Two) Hours

(Figures in the right margin indicate full marks. Answer any **FOUR** questions)

1. Describe the ophthalmic examination and diagnostic procedures in animals as well as instruments/tools used for ophthalmic examination. 10.0
2. Mention the ophthalmic instruments and their functions. What are the tools used for magnification in ophthalmic surgery. Write down the use of electroepilation and cryotherapy in ophthalmic surgery 10.0
3. How the patient controls intraocular pressure? Write down the factors responsible for normal variation in intraocular pressure. Illustrate briefly the important non-surgical and surgical techniques and their objectives for the treatment of glaucoma. 10.0
4. Describe the anatomy of third eyelid and surgical affections. What is cherry eye? Describe different surgical procedure of it. 10.0
5. Mention the common congenital and acquired conditions of canine lens with its anatomy. Describe the developmental stages and different types of cataract with etiology and surgical treatment. 10.0
6. Mention the common surgical affections and procedures in orbit. Briefly describe them. What is strabismus and proptosis? Write down the indications and procedure of trasorrhaphy. 10.0

**M.S. in Surgery; July-December Semester-2019**

**Subject: Small Animal Surgery (Theory)**

**Course code: SAS-602**

**Total Marks: 40                      Time: 2 (two) hours**

**Department of Medicine and Surgery; Faculty of Veterinary Medicine**

**Chittagong Veterinary and Animal Sciences University**

*(Figures in the right margin indicate full marks.)*

**Question No. 1 is compulsory. Answer any three questions from the remaining four)**

1. (a) Explain the meaning of 'Suture'? What are the advantages to using sutures to close wounds in animals? 03
- (b) Classify suture materials. Write down the biologic response of body to suture materials after surgery? 04
- (c) What are the possible complications of leaving suture for many days in the wound? 03
  
2. (a) What are the common tubes and drains used in veterinary surgery? 04
- (b) Write down the indications and uses of Thoracostomy tube and Penrose drain in small animal surgery? 04
- (c) Mention the use of Bone max and Gelatin sponges as hemostatic agents during surgery. 02
  
3. (a) Classify wound. Mention the use of Aseptic bandaging after surgical debridement. 04
- (b) Repair phase of wound healing is also called proliferative phase-Explain why? 04
- (c) Define asepsis, Sepsis, Antisepsis and Disinfection. 02
  
4. (a) How will you treat Pink eye and Cherry eye? 03
- (b) What do you mean by NLD block of eye in animals? How is lacrimal duct obstruction treated? 04
- (c) Define Onychectomy. Mention the indications and procedure of Onychectomy in dog. 03
  
5. Write short notes on **any two** of the followings:- 2x5=10
  - (a) Freshening of wound edges.
  - (b) Types of blood products.
  - (c) Positive pressure ventilations.
  - (d) Colloid fluids.

**M.S. in Surgery; July-December Semester-2019**  
**Subject: Nuclear Medicine, Radiotherapy and Physiotherapy (Theory)**  
Course code: NMR-602

**Total Marks: 40**                      **Time: 2 (two) hours**

Department of Medicine and Surgery  
Faculty of Veterinary Medicine

**Chittagong Veterinary and Animal Sciences University**

*(Figures in the right margin indicate full marks.)*

**Question No. 1 is compulsory. Answer any three questions from the remaining four)**

1. a) What is Nuclear Medicine? Mention the certain common properties of Radionuclide. 04  
b) Enlist three examples of Radionuclides and their target tissues/target diseases? 04  
c) What are the common routes of administration for radioactive substances in animal? 02
2. a) Define Gamma camera. Draw a schematic diagram of parts for a Gamma camera. 04  
b) What do you mean by PET and SPECT? Differentiate the use of PET and SPECT in Nuclear Medicine. 04  
c) Mention the name of three neurologic diseases that are studied in nuclear medicine. 02
3. a) How are X-rays produced from man-made or natural? 02  
b) Briefly explain the biological effects of Radiation therapy in animals 05  
c) How will you use radiotherapy for the treatment of cancer in a dog? 03
4. a) What are the common methods used in Physiotherapy? 04  
b) Write down the aims and principles of physiotherapy using in veterinary medicine? 03  
c) Mention the use of LASER and Infrared rays therapy in veterinary surgery. 03
5. Write short notes on *any two* of the followings:- 2x5=10
  - a) Electric stimulation therapy
  - b) IMRT
  - c) Hydro-treadmill therapy
  - d) Late effects of Radiation therapy

**M.S. in Surgery; July-December Semester-2019**

**Subject: Lameness in Animals (Theory)**

Course code: LAA-602

**Total Marks: 40**

**Time: 2 (two) hours**

Department of Medicine and Surgery

Faculty of Veterinary Medicine

**Chittagong Veterinary and Animal Sciences University**

*(Figures in the right margin indicate full marks.)*

**Question No. 1 is compulsory. Answer any three questions from the remaining four)**

1. (a) Mention the cause of lameness in cattle? Why toes in cattle are sometimes long? 04  
(b) What causes swollen hocks in cattle? Mention the cause of swollen joints in calves? 03  
(c) How do you prevent lameness in dairy cows? 03
2. (a) Describe "laminitis" and "founder"? Can laminitis in horses be cured-Explain? 03  
(b) What are the first signs of laminitis? What is the role of a hoof trimmer in preventing laminitis? 03  
(c) What are the prevention and treatment procedures for laminitis in horse? 04
3. (a) Draw a schematic diagram on important surgical conditions of a bovine digit. 04  
(b) How do you get rid of foot-rot in cattle? How long does foot-rot take to heal? 03  
(c) Is foot-rot in cattle contagious? What bacteria cause foot-rot in cattle? 03
4. (a) What are the causes, symptoms and treatment of sub-solar abscess in cattle? 04  
(b) Describe briefly about the upward fixation of patella in a milking cow. 03  
(c) What are the treatment and prevention of carpal hygroma in cattle? 03
5. Write short notes on **any two** of the followings:- 2x5=10
  - (a) Hip dislocation in dog
  - (b) Hoof deformity in cow
  - (c) Spastic paralysis in animal
  - (d) Arthritis in calf

Chattogram Veterinary and Animal Sciences University  
Faculty of Veterinary Medicine  
Department of Medicine and Surgery  
Final Examination, 2019  
MS in Theriogenology  
Semester: July-December  
Course title: Production Diseases and Udder Health Management  
Course code: PUM-602 (Theory)  
Time: 02 hours, Mark: 40

**(Answer all the questions. All questions contain equal mark)**

1. A 6 years old high yielding HF cross cow came to SAQTVH with history of recent parturation. The cow had rough hair coat and lusterless eyes. The owner had complained that the cow has reduced both its milk production and feeding. On clinical examination, the cow had reveled its body temperature 100°F, excessive salivation and swaying gait. The duty doctor suggested to collect blood sample from the cow and blood send the samples to central laboratory for estimating the level of glucose. The test report portrayed the level of glucose (20mg/dl). What would be your tentative diagnosis? How will you manage the case?
2. A 5 years old HF cross cow came Teaching Veterinary Hospital with history of sternal recumbence for more than 24 hours. The cow had previous history of milk fever. How will you define the condition? Mention all possible factors for a cow to be recumbent. What will be the probable risks resulting from a cow with chronic recumbence? How will you treat the condition?
3. "Milk is an ideal source for growth and multiplication of microorganism" justify the statement. How will you control mastitis from a dairy herd?
4. Briefly describe dry cow therapy. How much it profound for a dairy cow? How do mammary glands protect themselves from invasion of different types of microorganism?
5. Briefly describe the mechanism of induction of lactation. "Production diseases hamper the profitability of a dairy farm" Justify this statement.

Chittagong Veterinary and Animal Sciences University  
Faculty of Veterinary Medicine  
Department of Medicine and Surgery  
**MS in Theriogenology Final Examination, 2019**  
**Sub: Reproductive Health Management of Farm Animals**  
July-December'2019  
Course Code: RHM-602  
Total Marks: 40, Time: 2 hrs

Answer any four of the following questions.

1. What is herd health? What are the parameters you would select to evaluate the herd reproductive health management? Describe briefly. 2+8
2. Make a model layout for dairy farming environmental suitable for 50 cows. Summarize the steps to maintain the hygiene and sanitation of a dairy farm. 6+4
3. How to take care a new born female cattle calf so that she will be a good mom would able to give a good calf in future? Prepare a ration for pregnant cow of 300kg body weight. 6+4
4. Design a record book for recording all the record to make a dairy farm economically sustainable. Mention the optimum goal of some reproductive herd health parameters. 6+4
5. Prepare a certificate for a female cattle fit for breeding. How will you justify the use of antibiotics in a dairy farm? 6+4

Chittagong Veterinary and Animal Sciences University  
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Department of Medicine and Surgery  
**MS in Theriogenology Final Examination, 2019**  
**Sub: Advances in Gynecology**  
Course Code: AGY-602  
July-December' 2019  
Total Marks: 40, Time: 2hrs

Answer any five of the following questions.

1. Explain oogenesis and ovulation. How do you manipulate the follicular weave to increase fertility in sheep? 3+5
2. How does gamete transport in genital tract for fertilization? Describe the capacitation. 5+3
3. Draw pictures to show the fertilization and so on up to blastocyst formation. Describe briefly the mechanism of establishment of pregnancy in uterus. 4+4
4. Give the treatment of the following cases a). Anoestrus b). Cystic ovarian degeneration c). Delayed ovulation. d). Pseudopregnancy 8
5. What is infertility? What are the causes behind it? Describe briefly the managemental form of infertility in Bangladesh contest. 1+3+4
6. Write a short notes on abortion 8



Chittagong Veterinary and Animal Sciences University  
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Department of Medicine and Surgery  
**MS in Theriogenology Final Examination, 2019**  
**Sub: Advances in Reproductive Biotechnology**  
**July-December Semester, 2019**  
Course Code: ARB-602  
Total Marks: 40, Time: 2 hrs

Answer any five of the following questions.

1. What are the ARTs. Write down the scope of reproductive biotechnology. 3+5
2. Design a protocol for MOET in sheep. Mention the diseases could be control by MOET programme 5+3
3. Prepare a suitable media for embryo collection, holding and transfer. How will you grading and vitrify the embryo? 5+3
4. Summarize the procedure to select donor and recipient for estrous synchronization and super ovulation in MOET programme. Mention the name of hormones used in super ovulation. 6+2
5. What are the importances of collection of oocytes in livestock? Describe the method for oocytes collection from slaughter housed genital organ in cow. 3+5
6. Write short notes on cloning and transgenic animal. 4+4