**Chittagong Veterinary and Animal Sciences University**

**January to June Semester MS Final Examination,2016**

**Department of Medicine and Surgery**

**MS in Epidemiology**

**Course Title: Animal Health Economics (Theory)**

**Course Title: AHE-601**

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

**Ans wer any four (04) questions from the followings:**

**1.** a) Define animal health economics. Write the necessities for studying the animal health economics as a student of veterinary sciences. **3.0**

b) Briefly discuss the economic impact of diseases on dairy farm enterprise in context of Bangladesh. **7.0**

**2.** a) Distinguish between partial and whole farm budgeting. What kinds of data required for partial budget analysis? **3.0**

**b)** Graphically discuss the break-even analysis of a farm business analysis. **7.0**

**3.** a) Define prevention and control of animal diseases. Write the probable costs for prevention and control of AI diseases in poultry industry of Bangladesh. **7.0**

b) How animal welfare and animal health economics related to each other? Explain **3.0**

**4.** a) Distinguish between gross margin and enterprise costing. Write the advantages and limitations of gross margin. **6.0**

b) Develop a hypothetical input and output data for a financial year by your own intelligence on a small scale layer farming enterprise having 2000 laying birds at peri-urban location of Chittagong City Corporation areas in Bangladesh and find out gross margin and net farm profitability(Assuming interest rate 12.5 % if and when necessary). **4.0**

**5.** a) Define project. Distinguish between Economic and Financial analysis. **2.0**

b) Briefly discuss the discounted project appraisal techniques for assessing the economic viability of a project in the field of animal production and disease management. **5.0**

c) DLS is going to implement a seven (07) years duration hill livestock development program at Rangamati District in Bangladesh. The intended costs and benefits in million tk. are given as follows:

| Year | Costs | Benefits |
|---|---|---|
| 1 | 950 | 0 |
| 2 | 450 | 50 |
| 3 | 500 | 350 |
| 4 | 350 | 650 |
| 5 | 250 | 1050 |
| 6 | 150 | 750 |
| 7 | 75 | 850 |

**Calculate** BCR and NPV by estimating rate of discount at 10 percent **3.0**

**Chittagong Veterinary and Animal Sciences University**

**MS In Epidemiology**

**July-December Semester, 2016**

**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

| | | | |
|---|---|---|---|
| 1 | a | What are the enzymes required for DNA replication in prokaryotes and eukaryotes? | 3 |
| | b | Differentiate DNA replication from eukaryote to prokaryote. | 7 |
| 2 | a | What are positive selectable marker and negative selectable marker? | 2 |
| | b | How you can proceed to make a gene knockout mouse against any targeted gene? | 8 |
| 3 | a | What is gene cloning? | 2 |
| | b | What are the basic steps in gene cloning? | 2 |
| | c | Illustrate a typical vector which is used in molecular biology with neat diagram. | 6 |
| 4 | a | What is GIS? | 2 |
| | b | Discuss the role of GIS in the field of veterinary science with giving some example. | 8 |
| 5 | a | What is genomic library? | 2 |
| | b | How can you find a target sequence from a genomic library? | 8 |

Department of Medicine and Surgery

***MS in Epidemiology July-December Semester Final Examination/2016***

Course and Title: Risk Analysis and Policy Planning (RAP-602)

Total marks: 40; Time: 2 hours

**[Answer three questions of which <u>question no 2 is compulsory</u>. Figures in the right margin indicate full marks]**

1. **(a.)** Write down the applications and prospects of risk analysis in veterinary field in Bangladesh. **3**
   **(b.)** How do NAS-NRC model and Covello-Merkhofer model explain risk analysis process? **4**
   **(c.)** How does risk analysis help in planning of disease surveillance? **3**

2. Suppose the unprocessed camel milk for human consumption is planning to import to Bangladesh from one of middle-east countries and you are assigned to assess the risk of introduction of any zoonotic pathogens through this milk to your country. According to this scenario write the answers of the following questions.

   **(a.)** What are the points to be considered in developing risk question? Phrase some risk questions. **3**
   **(b.)** Write down the steps of risk analysis process. **5**
   **(c.)** Outline the risk analysis pathway. **5**
   **(d.)** Write down the potential information/data you require to do risk analysis. **5**
   **(e.)** How challenges do you think to conduct your planned risk analysis (quantitative and qualitative)? **2**

3. **(a.)** When and where contingency plans are applicable for disease control? **3**
   **(b.)** What are the ingredients required under the different steps in contingency plan for controlling diseases. **4**
   **(c.)** Does the DLS, Bangladesh have any policy for emerging or re-emerging poultry diseases? If yes, how the policy works? **3**

4. **(a.)** Explain poultry value chain analysis. **5**
   **(b.)** How do behavioral studies along with ideal epidemiological studies on livestock farmers help in disease controlling? **5**

**Chittagong Veterinary and Animal Sciences University**
**Faculty of Veterinary Medicine**
**Department of Medicine and Surgery (DMS)**
**July-December Semester Final Examination 2016**
**Sub: Fluid therapy and blood transfusion; Code: FBT-602**
**Full Marks: 40; Time 2 hours**
**Answer any four (4) from the following questions**

| | | | |
|---|---|---|---|
| 1 | a | Write down the principles of fluid and electrolyte therapy | 3 |
| | b | What are the major abnormalities and deficits happened and fluid and electrolytes needed in neonatal calf diarrhea, peracute coliform mastitis and acute grain engorgement in horse | 3 |
| | c | What do you mean by crystalloid, colloid, hypotonic, isotonic and hypertonic fluids? Give examples with their uses. | 4 |
| 2 | a | Show in a sketch the etiology and pathogenesis of dehydration. | 4 |
| | b | What is acute overhydration/ water intoxication? Mention clinical findings and treatment. | 3 |
| | c | Calculate the amount of fluids required in a 500 kg mature cow with 8% dehydration. | 3 |
| 3 | a | How will you evaluate and monitor patients receiving fluid therapy in dogs and cats | 2 |
| | b | How will you determine the routes of fluid administration in dogs and cats | 3 |
| | b | Why does fluid therapy fails in calves | 5 |
| 4 | a | Describe selection and maintenance of animals used for blood collection | 4 |
| | b | Write down the amount of blood possible to collect from different animals | 2 |
| | c | Discuss briefly storage and preservation of blood | 4 |
| 5 | a | Describe cross matching of donor and recipient blood for compatibility | 3 |
| | b | How much blood is to be transfused in a 40 kg dog with a PCV of 7% where the donated blood's pcv is 35% and target PCV is 28%. | 3 |
| | c | Describe route and method of blood administration in pets | 4 |

**GOOD LUCK**

# Chittagong Veterinary and Animal Sciences University
## Faculty of Veterinary Medicine
## Department of Medicine and Surgery
## MS in Medicine
## Semester: July-December2016
## 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 different forms of rabies in pet animals? How will you control this disease? **09**

   (b) Name six viral diseases of dogs and cats. **01**

2. Write down the etiology, clinical signs, diagnosis, treatment, prevention and control of feline panleukopenia. **10**

3. (a) How can you differentiate between infectious canine hepatitis and canine parvovirus infection? **05**

   (b) Write the consequences of accidental acetaminophen administration in cats. What are the possible ways of management of this situation? **05**

4. Write down the etiology, different clinical forms, diagnosis, treatment, prevention and control of hard pad disease. **10**

5. (a) What are the zoonotic significances of toxoplasmosis? **02**

   (b) Write down the etiology, clinical signs, treatment and control of canine babesiosis. **08**

6. Write short notes on heartworm and hookworm infestations in dogs. **10**

**MS in Medicine, July-December semester 2016**

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

**Sub: Food Animal Medicine (FAM-602)**

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

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

1. a) What do you mean by hepatic dysfunction? What are the clinical manifestations of hepatic dysfunction? 05
   b) Write down the procedures of diagnosis of liver dysfunction in food animal. 05

2. a) What is urticaria? How do you differentiate urticaria from dermatitis? Provide the line of treatment of them. 05
   b) A 20 kg Black Bengal goat gave birth of two kids. Both the kids are unable to see, stand or walk. What would be your diagnosis and what treatment would you suggest? 05

3. a) A 6-years old Holstein cow that calved 12 hours earlier is presented in sternal recumbancy, profoundly depressed, dehydrated, afebrile with toxic mucous membranes and elevated heart and respiratory rate. 06
      i) What disease would you consider?
      ii) What treatment would you administer?
      iii) What control measure could be adopted?

   b) Mention the role of fat soluble vitamin in animal's growth and reproduction. 04

4. a) Define indigestion and pneumonia? Write down the different indigestion and pneumonia in ruminant. 03
   b) Enumerate the differential diagnosis of the following conditions. 04
      i) Pleurisy and pneumonia
      ii) Primary and secondary tympany
   c) How do you treat a tympanic patient? 03

5. Write short notes on the following (*any two*) 2*05=10
   a) Aspiration pneumonia in goat.
   b) Pericarditis in cattle.
   c) Nitrite and nitrate poisoning in ruminant

# Chittagong Veterinary and Animal Sciences University
## Faculty of Veterinary Medicine
## Department of Medicine and Surgery
## M.S. in Medicine
## Semester: July – December 2016
## Subject: Zoo and Wild Animal Medicine
## Course Code: ZWM 602; Credit: 2
## Total Marks: 40. Time: 2 (Two) Hours

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

1. (a) Write down the principles of treatment of diseases in zoo and wild animals. **04**
   (b) Write down the role of Field Veterinarian in the Protected Wildlife Region in Bangladesh. **06**

2. (a) Mention in a tabular form the etiology, clinical signs and therapy of 10 (Ten) bacterial diseases in Reptiles. **05**
   (b) Write down the etiology, mode of transmission, clinical signs, post – mortem lesions and treatment of Gray patch disease in Green Sea Turtle (*Chelonia mydas*). **05**

3. (a) Describe the etiology, clinical signs, post – mortem lesions and therapy of Pouch infection in Koala. **05**
   (b) A dead Giraffe from Chittagong Zoo came to you for post – mortem examination. On post – mortem examination, you saw corrugated lesions on ileo – cecal junction. What is your presumptive diagnosis? Write a prescription for the affected Giraffes on that Zoo. **05**

4. (a) Write down the etiology, transmission, clinical signs, pathognomonic post – mortem lesions, diagnosis, treatment, prevention, control and zoonotic importance of Equine influenza in Zebra. **06**
   (b) A dead deer of 5 months old came to you with history of lameness. On post – mortem examination, you saw stripped lesion over myocardium of the heart. What is your presumptive diagnosis? What is your advice to the owner for rest of the healthy ones? **04**

5. (a) Describe the etiology, transmission, clinical signs, pathognomonic post – mortem lesions, diagnosis, treatment, prevention, control and zoonotic importance of Anthrax in Asian Elephant (*Elephas maximus*). **08**
   (b) What do you understand by the term Ethology? Explain. **02**

6. (a) Write down the etiology, transmission, clinical signs, pathognomonic post – mortem lesions, diagnosis, treatment, prevention, control and zoonotic importance of Bacterial Enteritis in Non – human Primates. **06**
7. (b) Mention the name of upper respiratory tract diseases of the Royal Bengal Tiger. Describe the etiology, routes of infection, clinical signs, diagnosis and treatment of Feline pneumonitis in the Royal Bengal Tiger at the National Zoo, Mirpur, Dhaka. **04**

**– GOOD LUCK –**

**Chittagong Veterinary and Animal Sciences University**
**Faculty of Veterinary Medicine**
**Department of Medicine and Surgery**
**M. S. in Surgery, Semester: July- December, 2016**
**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. Write down in detail the factors consideration in general anaesthesia for small animal specially in dogs and cats. 10.0

2. Describe the different nerve block techniques in eye, teeth and brachial plexus. Write down the mode of action of local anaesthetics with their classification, duration of action and adverse effect in blood stream. 10.0

3. Write down the role of premedication in small animals. Describe their effects on different systems of one important agents on each groups. 10.0

4. Enumerate the anaesthetic monitoring in small animals. Also describes the resuscitation techniques. 10.0

5. What are the anaesthetic factors will you consider for pediatric and geriatric patients? Mention the anaesthetic consideration in caesarean and spinal surgery cases in small animals. 10.0

6. Write short notes on- any two of the followings
   i) ventilation techniques ii) anaesthetic induced stress and immune response iii) Pain and pain management. 10.0

**M.S. in Surgery; July-December Semester-2016**
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. Answer any **FOUR** questions*)

1. (a) Define wound healing? Mention the three broad phages of wound healing. 02
   (b) Describe the repair phase (Proliferative) of wound healing. 04
   (c) Briefly describe the classification of wound by the clinicians. 04

2. (a) What is hemostasis? Briefly describe the primary haemostasis pathway in animal. 04
   (b) Enlist the methods for control of surgical haemorrhage. 03
   (c) Briefly describe the use of Electro-surgery in operation theatre. 03

3. (a) What are the common tubes used in veterinary surgery? 03
   (b) Briefly describe the temporary tracheostomy tube placement in dog. 05
   (c) How will you place 'Penrose drain' in a skin wound? 02

4. (a) What are the names of potential routes for local anaesthetic administration? 04
   (b) Briefly describe the constant rate of infusion for small animal practice. 04
   (c) Write the dosage of at least two opioids used in veterinary medicine? 02

5. Write short notes (**Any two**) 5x2=10
   (a) Freshening of wound edges.
   (b) Antibiotic therapy in wound management.
   (c) Follow-up care.

**M.S. in Surgery; January-June Semester-2016**

Subject: **Lameness in Animals**

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. Answer any **FOUR** questions*)

1. (a) Define Laminitis. What are the common causes of Laminitis in animals? 03
   (b) Explain the relationship between ruminal acidosis and laminitis in cattle. 04
   (c) What are the prevention and treatment procedures for laminitis in a cow? 03

2. (a) Draw a schematic diagram on important surgical conditions of a bovine digit. 04
   (b) How do you treat for digital dermatitis in cattle? 03
   (c) Briefly describe about the Slurry heel? 03

3. (a) What are the signs, symptoms and treatment of carpal hygroma in cattle? 03
   (b) How will you trim the deformed hoof in a cow? 03
   (c) Write the etiology, clinical findings, treatment and control of interdigital dermatitis in dairy farm? 04

4. (a) What are the causes, symptoms and treatment of hip dislocation in cattle? 04
   (b) Describe briefly about the Upward fixation of patella in a milking cow. 03
   (c) Discuss about the stringhalt in horse. 03

5. Write short notes on the following (***Any two***) 5x2=10
   (a) Sand-crack
   (b) Spastic paralysis
   (c) Poly-arthritis in calf

# Chittagong Veterinary and Animal Sciences University
## Faculty of Veterinary Medicine
## Department of Medicine and Surgery
### M. S. in Surgery, Semester: July- December, 2016
### 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. What are the indications of ophthalmic examination? Explain detail ophthalmic examination and diagnostic procedure with the special instruments used in this system. 10.0

2. Describe the anatomy and histology of different structures involved in ophthalmic system. Mention the anatomical variation of ophthalmic structures in different species. 10.0

3. What kinds of tumor/neoplasm common in ophthalmic structures in different species? Explain them. 10.0

4. What do you mean by glaucoma? What are the factors/ causes responsible for glaucoma? Give detail conservative and surgical treatment of glaucoma. 10.0

5. Mention the common problems associated with lens. Describe the causes, manifestations and treatment procedure of cataract in dogs. 10.0

6. Mention the problems involved in the following structures- conjunctiva, eyelids, naso-lacrimal duct, retina and fundus. What are the nerves involved in ophthalmic system? Write the indications and surgical procedure of kerotoplasty. 10.0

**M.S. in Surgery; July-December Semester-2016**

Subject: **Nuclear Medicine, Radiotherapy and Physiotherapy**

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. Answer any **FOUR** questions*)

1. (a) Define Nuclear Medicine. Mention some common tracers used for animal treatment in nuclear medicine. 05
   (b) What do you mean by Radiography and Fluoroscopy? 02
   (c) What are the differences between the radiologist and radiographer? 03

2. (a) What do you mean by radiotherapy and nuclear medicine therapy? 02
   (b) What are radioisotopes and what are they used for in animal? 05
   (c) Mention some potential side effects of use radioactive isotopes. 03

3. (a) What are the common modalities used in veterinary physiotherapy? 04
   (b) What is Range of Motion (ROM) and Why is it important? 03
   (c) Briefly describe the use of Neuromascular electric stimulation in the treatment of small animals? 03

4. (a) What is the importance of acupuncture therapy? How does acupuncture work? 04
   (b) Why are acupuncture points so important? 03
   (c) Write down the side effects from using acupuncture in animal? 03

5. Write short notes on the followings (***Any two***) 05x2=10
   a) Isotopes in radiation therapy.
   b) Hydro-treadmill Therapy.
   c) Importance of "Lameness scoring".
   d) Use of Gamma ray.

Chittagong Veterinary and Animal Sciences University
Faculty of Veterinary Medicine
Department of Medicine and Surgery

**MS in Theriogenology Final Examination, 2016, July-December**

**Subject: Production Diseases and Udder Health Management**

Course Code: PUM-602

Total Marks: 40

Time: 2 hours

Answer any five of the following questions. Figure in the right margin indicate full marks.

| | | |
|---|---|---|
| 1. | What are the diseases commonly occurred with high production? Discuss briefly the mechanism of production of ketosis in cow. | 8 |
| 2. | What does it importance of Compton Metabolic Profile Test in domestic animals? How would you perform this test in a dairy farm-describe briefly. | 8 |
| 3. | Define mastitis and udder defense mechanism to control mastitis. | 8 |
| 4. | Name the organisms causing mastitis in animals. | 8 |
| 5. | Mention the shape of udder and teat in cattle. What is the relationship between udder -teat shape with mastitis? Describe briefly. | 8 |
| 6 | Define the importance of dry cow therapy to control mastitis. How would you provide the therapy to dry cow towards control the mastitis-describe briefly. | 8 |
| 7 | Describe briefly the strategy to mastitis control. | 8 |

**Chittagong Veterinary and Animal Sciences University**
**Faculty of Veterinary Medicine**
**Department of Medicine and Surgery**
**MS in Theriogenology Final examination-2016**
**Semester-July-December**
**Course title: Advances in Reproductive Biotechnology (Theory)**
**Course Code: ARB-602, Credit: 2**
**Total marks: 40, Time: 2 hour**

**(Answer any five questions which have equal marks eight)**

1) Define Biotechnology. What are the applications of reproductive biotechnology in livestock production?

2) A high yielding variety proven dairy cow affect with the Downers cow Syndrome. How will use this cow for reproduction by using reproductive biotechnology?

3) How will you collect, evaluate and cryo-preserve of embryo during MOET?

4) Write down the process and media that are used for maturation of ovum and capacitation of sperm for IVF.

5) Write down the process of cloning. Describe the ethical and religious aspects of cloning.

6) What is micromanipulation? Describe the procedure of micromanipulation for men and women.

7) Write short notes on any two of the following:
   (a) Transgenic animal.
   (b) Sexing of spermatozoa.
   (c) Technique of cell culture.

Chittagong Veterinary and Animal Sciences University
Faculty of Veterinary Medicine
Department of Medicine and Surgery
**MS in Theriogenology Final Examination, 2016, July-December**
**Subject: Reproductive Disorders**
Course Code: RDD-602
Total Marks: 40
Time: 2 hours

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

1. List the reproductive disorders are commonly occurred with female animal? 10
2. What are the parameters we can consider for measuring economic losses of dairy farm? How you will calculate the economic losses in dairy farm with those parameters describe briefly. 10
3. Define your duty as a veterinarian to reduce infertility leading to economically developed in a dairy farm. 10
4. Describe briefly the role of nutrition to infertility 10
5. Early embryonic death is one of the causes of sub-fertility or infertility. What are the causes and how would you diagnose this early embryonic death-describe briefly 10

**Chittagong Veterinary and Animal Sciences University**
**Faculty of Veterinary Medicine**
**Department of Medicine and Surgery (DMS)**
**July-December Semester Final Examination 2016**
**Sub: Population Health; Code: POH-602**
**Full Marks: 40; Time 2 hours**
**Answer any four (4) from the following questions**

| | | |
|---|---|---|
| Q1 | a) What do you mean by herd health? | 2 |
| | b)Describe historical development of herd health as a core subject of veterinary epidemiology discipline. | 8 |
| Q2 | a)what is benchmarking? | 1 |
| | b)How will you use benchmarking in your dairy herd to improve mastitis problem | 5 |
| | c)What is HACCP? What are the principles? | 4 |
| Q3 | Black Bengal goat is popular for its meat and skin quality. Government is planning to boost up its production in Bangladesh. How will you take a holistic approach to implement the plan? | 10 |
| Q4 | Chittagong city corporation has contacted epidemiology team of CVASU to know the status of bovine tuberculosis in dairy farms in metropolitan area. As a herd health veterinarian, develop a questionnaire to know the real situation. | 10 |
| Q5 | a)write down the factors impediment in development of herd health program | 3 |
| | b)Describe record keeping and animal identification in herd health program | 3 |
| | c)Describe the benefits of herd health program | 4 |

**GOOD LUCK**

Chittagong Veterinary and Animal Sciences University
Faculty of Veterinary Medicine
Department of Medicine and Surgery

**MS in Theriogenology Final Examination, 2016**
**Semester: July-December**
**Subject: Advances in Gynecology**

Course Code: ADG-602
Total Marks: 40
Time: 2 hours

Answer any five of the following questions. Figure in the right margin indicate full marks.

| | | |
|---|---|---|
| 1. | How would you understand an animal is sexually matured? Define the role of factors influencing the onset of puberty. | 8 |
| 2. | Post partum anestrus is a serious cause leading to infertility. Briefly discuss the factors delaying the onset of estrus after delivery. | 8 |
| 3. | How does gamete transport in the genital tract? Describe briefly the role of mother and embryo to establish pregnancy. | 8 |
| 4. | A dairy farm having 50 cows. 20 of them are anestrus. You are asked for synchronization of these anestrus cows to improve fertility. How? Describe briefly. | 8 |
| 5. | What are the hypothetical factors causing repeat breeding syndrome? Describe the management protocol for this syndrome. | 8 |
| 6. | What does it mean by immunological infertility? How would you overcome the risk of immunological infertility in livestock? | 8 |
| 7. | Describe the placentation in cattle. | 8 |
| 8. | Write short note on<br>i. Pseudo-pregnancy<br>ii. Cystic ovarian disease | 2x4 =8 |