

Chittagong Veterinary and Animal Sciences University
Faculty of Veterinary Medicine
Department of Medicine and Surgery
MS in Theriogenology Final Examination, 2020
Sub: Advances in Reproductive Biotechnology
Semester: July-December 2020
Course Code: ARB-602
Total Marks: 40, Time: 2 hrs

Answer any five of the following questions.

1. Define animal biotechnology. Write down the application of ARTs in livestock sector. 2+6
2. Design a protocol for MOET in small ruminant. Mention the diseases could be control by MOET programme. 5+3
3. Formulate a suitable media for embryo collection, holding and transfer. How will you grading and vitrify the embryo? 5+3
4. What does it mean by super ovulation? What it has importance? What are the criteria you will consider for selection of donor and recipient? Explain briefly. 1+2+5
5. Describe the method of ultrasound guided transvaginal ovum pick-up in cow. How will you grading the oocyte for IVF? 5+3
6. Write down the protocol of ICSI and embryo sexing. 4+4

Chittagong Veterinary and Animal Sciences University
Faculty of Veterinary Medicine
Department of Medicine and Surgery
MS in Theriogenology Final Examination, 2020
Sub: Reproductive Health Management of Farm Animals
Semester: July-December'2020
Course Code: RHM-602
Total Marks: 40, Time: 2 hrs

Answer any four of the following questions.

1. Explain the procedure of measuring BCS in animals. Describe the role of nutrition in animal reproduction. 2+8
2. Design a model record keeping system of a dairy farm economically sustainable. Write the vaccination schedule in a dairy farm. 8+2
3. Design a model dairy farm for 200 animals. Summarize the steps to maintain the hygiene and sanitation of a dairy farm. 6+4
4. What are the parameters you will consider for analyzing the reproductive efficiencies and how? Explain briefly. 10
5. Describe the reproductive health management programme for heifers in a dairy farm. Prepare a ration for dairy cow. 6+4

Chittagong Veterinary and Animal Sciences University
Faculty of Veterinary Medicine
Department of Medicine and Surgery
MS in Theriogenology Final Examination, 2020
Sub: Production Diseases and Udder Health Management
Course Code: PUM-602, July-December Semester, 2020
Total Marks: 40, Time: 2 hrs

Answer any four of the following questions

1. Name the production diseases in livestock. What principle you will follow to control the production diseases? Explain briefly. 3+7
2. Mention the shape and size of the udder with species. What type of udder and teat is more prone to mastitis? Describe briefly. 3+7
3. List the causes responsible for mastitis in cow. What principles will you follow to treat the mastitis case in animals? How do you induce lactation immediate after delivery in a cow? 3+5+2
4. How udder itself defense the mastitis? What are the principles you will follow to increase udder resistant to infections and minimize the cost? 5+5
5. 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. What principles you would follow during treatment the dairy cows to mitigate antimicrobial resistance? 3+5+2

Chittagong Veterinary and Animal Sciences University
Faculty of Veterinary Medicine
Department of Medicine and Surgery
MS in Theriogenology Final Examination, 2020
Sub: Advanced in Gynaecology
Semester: July-December 2020
Course Code: AGY-602
Total Marks: 40, Time: 2 hrs

Answer any 5 of the following questions

1. How do you certify a heifer for breeding purpose? Describe briefly. 8
2. What are follicular waves? What are the protocol you may apply to manipulate the ovulation in animals? Explain briefly most important one of them in cow. 8
3. How gametes transport in the genital tract? Summarize the steps for fertilization and implantation. 8
4. Enumerate the causes of infertility in dairy farm in our country. How will you increase the conception rate in a dairy farm? 8
5. Do you think 'Pseudo-pregnancy' is one of the causes of infertility in animals? Briefly describe it's causes, diagnosis and treatment in goats. 8
6. What does it mean by immunological infertility? How would you overcome the risk of immunological infertility in livestock? 8
7. Write short notes any two of the following: 2×4=8
 - a. Early embryonic death
 - b. Fetal circulation and gestation
 - c. Importance of BCS in reproduction

CHITTAGONG VETERINARY AND ANIMAL SCIENCES UNIVERSITY

Department of Medicine and Surgery

July-December Semester final Examination-2020

M.S. in Epidemiology

Subject: Animal Health Economics (Theory)

Total Marks: 40; Time: 2.0 hours

Answer any four (4) questions from the followings:

1. a) Define animal health economics. Write the relationship between economics and veterinary epidemiology. 1+4=5
b) Briefly discuss the disease and the physical transformation process in context of Bangladesh. 5
2. a) Compare between financial and economic analysis. What steps should be undertaken in the evaluation of a disease control program? 2+4 =6
b) Classify the main costs of the items involved in livestock production into fixed and variable costs. 4
3. a) Distinguish between input and output. Discuss the rules and methods used for calculating livestock output. 2+5 =7
b) A layer farm owner started a layer farm by purchasing 1000 matured pullets from a layer farm. On average 50 weeks recorded as laying period, 5% of laying birds died up to laying period and not been replaced during laying period, average egg production per bird was recorded as 21 dozens, whole sale price @ Tk. 100 per dozen. At the end of the laying period, remaining hens are culled and average sold price @ Tk. 300 per hen. **Calculate:** Annual enterprise output per hen?
4. a) Define the concepts of Gross Margin, Operating Margin and Net Margin. 2
b) Briefly discuss the gross margin analysis. 5
c) A Dairy entrepreneur wishes to establish a dairy enterprise keeping 30 Cross-bred milch cows for 5 years period. Each year the farm owner replaces at least 10 % oldest cow of total herd with an in-calf heifer valued at \$ 500. Assumes, each cow yearly produces 1 calf valued at \$ 400, milk produced 2050 liters valued at \$ 0.65 per liter, culled 1 cow being sold at \$ 450. Per cow annual costs of this enterprise for variable factors are recorded as: concentrate feeds valued at \$ 300, insurance \$ 10, green grasses & paddy straw \$ 250, medicine treatment cost valued \$ 50, casual labour and miscellaneous cost \$10. **Calculate:** Gross margin per cow. 3
5. **Write short notes on (Any four from the followings):** (2.5x4)=10
(i) Cost-Benefit Analysis (CBA); (ii) Partial budgeting; (iii) Break-even- analysis; (iv) Role of Govt. intervention in disease control; (v) A model of disease losses estimation.

Chattogram Veterinary and Animal Sciences University
MS in Epidemiology
July-December 2020
Subject: GIS and Molecular Techniques in Epidemiology
Course code: GMT (602)

Total marks: 40

Time: 2 hours

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

1. a What is a Geographical Information System? Write down the importance of GIS in public health 5.0
b Differentiate between raster data and vector data. Briefly describe edge effect in GIS mapping 5.0
2. a Differentiate transcription and translation of eukaryote and prokaryote 5.0
b How will you isolate mRNA from mixture of RNAs 5.0
3. a Discuss different extraction process of nucleic acid 10.0
4. a Explain how insertional inactivation helps to find out in blue white colony 5.0
b What do you mean by restriction endonuclease enzyme? How can you modify stick end to blunt end ? 5.0
5. a What is DNA sequencing? Explain Sanger sequencing 5.0
b Explain PCR process 5.0

Chattogram Veterinary and Animal Sciences University

Department of Medicine and Surgery

MS Jul –Dec Semester Examination 2020

Course Title and Code: Risk Analysis and Policy Planning (RPM-602: 2+0)

Total marks: 40; Time: 2.0 hours

(Right of the margin indicates the full marks. Please answer 7 questions of which **Questions 3 and 4** is compulsory)

- Q1.** State the components and application of risk analysis. Distinguish quantitative risk analysis from qualitative” risk analysis **5.0**
- Q2.** Enlist the possible questions which may be asked to assess the risk of an exotic infectious disease. **5.0**
- Q3.** Suppose your country is at high risk of Transboundary Animal Diseases (TAD). As an epidemiologist (cum policy maker) what potential strategies do you want to take as the preventive measures of TAD introduction? Narrate briefly. **5.0**
- Q4.** Describe different steps of qualitative risk analysis with an example case. **10.0**
- Q5.** What do you mean by “Contingency plan”? List the most common contents of a “Contingency plan” for a pandemic potential disease like COVID. **5.0**
- Q6.** How can you strengthen the capacity of veterinarians and other animal health staff to detect animal disease pandemic threat? **5.0**
- Q7.** Briefly describe the responsibilities of different stakeholders (public and private) at any animal disease emergency. **5.0**
- Q8.** What are the challenges of livestock policy practices in the field? And how we can deal those challenges? **5.0**
- Q9.** Write down the compensation policy an emergency preparedness plan. **5.0**

Chittagong Veterinary and Animal Sciences University

Faculty of Veterinary Medicine

Department of Medicine and Surgery (DMS)

July-December Semester Final Examination 2020

Sub: Population Health; Code: POH-602

Full Marks: 40; Time 2 hours

Answer any four (4) from the following questions

- Q1 a) Discuss population health. 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 mastitis in a dairy farm through benchmarking? 4
c) What is HACCP? How can you apply HACCP principles in dairy herd health and production management? 5
- Q3 DLS is planning to conduct antibacterial usage surveillance in livestock sector in Bangladesh and you are a consultant in this project? How will you take a holistic approach to conduct the surveillance? 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) Abortion is one of reproductive problems in buffalo rearing in Bangladesh. DLS is planning to assess the brucellosis status in buffalo population. As an epidemiologist in the team, Prepare a questionnaire to evaluate the situation. 6

GOOD LUCK

Chattogram Veterinary and Animal Sciences University
Department of Medicine and Surgery, Faculty of Veterinary Medicine
MS in Medicine, July-December Semester-2020
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) Enlist common metabolic disorders with their synonyms in lactating dairy cows? Why are they considered metabolic rather than deficiency disorders? 03
b) Briefly discuss the significant features of 3 different clinical forms of hypocalcaemia in dairy cows. 04
c) How will you treat a horse weighing 300 kg having azoturia? 03
- 02 a) Define and classify jaundice. How will you differentiate pre-hepatic, hepatic and post-hepatic jaundice in farm animal? 05
b) List the important trace minerals in farm animals. Write down the significant clinical signs animal may show due to their deficiencies. 05
- 03 a) Write down the interpretations of different types of respiratory sound, cough and nasal discharges in cattle. 05
b) Write down the predisposing factors and common lodgment sites of Urolithiasis in goats. Suggest the treatment of a patient suffering from cystitis. 05
- 04 a) What do you mean by pathognomonic clinical sign? Write down the pathognomonic clinical signs of rickets, myopathy, pyelonephritis and post-parturient hemoglobinuria 05
b) Mention the role of fat soluble vitamin in animal's growth and reproduction 05
- 05 Write short notes on the following (*any two*) 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, 2020
Semester: July–December
Subject: **Fluid therapy and Blood transfusion**
Course code: FBT–602

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

Total Marks: 40

Time: 2 hours

1. a. What percentage of body weight is composed of water in the average healthy animal? How can you assess the hydration and volume status of a patient?? 04
b. Write down the advantages and limitations of different routes of fluid administration. 04
2. a. Write down the common causes of acid base disturbances in body fluid. 04
b. Describe the consequences of excessive fluid administration. 04
3. a. Discuss natural colloids and blood products briefly. 04
b. Write down the different blood groups in cattle, goat, dog and cat. 04
4. a. Why is parenteral nutrition necessary? List the solutions that can be used as parenteral nutrition, along with their indications. 04
b. How will you screen a potential blood donor (canine and feline)? 04
5. a. How to determine donor recipient compatibility? Describe the blood collection procedure step by step. 04
b. Write down the principles and indications of blood transfusion in ruminants. 04
6. Write short notes (any two) on: 4×2
 - a. Transfusion reaction
 - b. Blood components
 - c. Commercially available intravenous fluids in Bangladesh



Chattogram Veterinary and Animal Sciences University

Faculty of Veterinary Medicine

Department of Medicine and Surgery

M.S. in Medicine

Semester: July – December 2020

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) Define Emerging and Re – emerging diseases of wild animals with 05 03
(Five) examples of each.
(b) Write down the role of Field Veterinarian in the Protected Wildlife Region
in Bangladesh. 07
2. (a) A dead Giraffe came to you for post – mortem examination. On post –
mortem examination, you saw “striped appearance” on ceco – colic junction.
(What is your presumptive diagnosis? What is your advice to owner for rest of
the healthy ones? (01+03) = 04
(b) Describe the etiology, clinical signs, post – mortem lesions, diagnosis, 06
treatment, prevention and control of Pox in the Asian Elephant (*Elephas*
maximus).
3. (a) Describe the transmission, symptoms and preventive procedure of Hepatitis
A infection in the non – human primates with zoonotic significance. 06
(b) Mention in a tabular form the etiology, clinical signs and therapy of 10
(Ten) Bacterial diseases in Reptiles. 04
4. (a) What do you mean by “Mycobacterium Avium Complex (MAC)” in Tapir?
Describe the etiology, clinical signs, diagnosis and treatment of (02+04) = 06
MAC in Tapir.
(b) Describe the etiology, clinical findings, treatment and control of Pouch 04
infection in Koala.
5. Mention the upper respiratory tract diseases of tiger. Write down the etiology,
route of infection, clinical signs, diagnosis and treatment of Feline
pneumonitis in the Royal Bengal Tiger. (02+08) = 10
6. (a) Write the etiology, clinical findings and treatment of Salmon poisoning in
a fox. 04
(b) Mention the etiology, transmission, clinical signs, post – mortem 06
lesions, diagnosis, treatment, prevention and control of Bacterial Enteritis in
Gorilla.

– GOOD LUCK –

Chattogram Veterinary and Animal Sciences University
Faculty of Veterinary Medicine
Department of Medicine and Surgery
MS in Medicine
Semester: July-December 2020
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) Explain following terms: (a) Kennel cough (b) Snuffles. 04
(b) Write down the deworming and vaccination schedule of dogs and cats. 06
2. Write down the etiology, clinical signs, diagnosis and treatment of canine plague. 10
3. (a) Write down the clinical signs of infectious canine hepatitis and canine rabies. 04
(b) Why paracetamol poisoning is fatal in cats and how can you manage it? 06
4. Write down the etiology, clinical signs, diagnosis and treatment of feline plague. 10
5. (a) Describe the treatment of canine parvovirus infection and canine leptospirosis. 06
(b) Write down the clinical signs of toxoplasmosis and feline infectious peritonitis. 04
6. Write short notes on feline respiratory disease complex and canine babesiosis. 10

Chattogram Veterinary and Animal Sciences University

Faculty of Veterinary Medicine

Department of Medicine and Surgery

MS in Surgery, Semester: July-December 2020

Subject: Small Animal Surgery

Course code: SAS-602

Total Marks: 40

Total time: 2 hours

(Please answer any four from the following questions. Figures in the right margin indicate full marks)

Question 1

5x2 = 10

- a) Write down five chemotherapeutic drugs with their indications and doses in small animal.
- b) Write down the pre-operative management of cystolithiasis and rupture of urinary bladder in small animal.

Question 2

5x2 = 10

- a) Write down the surgical management of foreign body removal from small intestine in dogs.
- b) Write down the different techniques to minimize size disparity in end-to-end anastomosis of intestine in small animal.

Question 3

5x2=10

- a) Write down cystotomy procedure in a male dog suffering from urolithiasis.
- b) Write down the cystostomy technique in a 20 kg male dog.

Question 4

5x2=10

- a) What is aural hematoma? How will you manage aural hematoma in an adult dog?
- b) Write down the total eye enucleation technique in a puppy.

Question 5

5x2=10

- a) Write down the procedure of c-section in a 20 kg dog.
- b) What is ovariohysterectomy? How will you perform ovariohysterectomy in a cat?

Question 6

5x2=10

Write short note of any two

- a) Mastectomy in dogs
- b) Gastrotomy in dogs
- c) Enterotomy in cats

Chattogram Veterinary and Animal Sciences University

Faculty of Veterinary Medicine

Department of Medicine and Surgery

MS in Surgery, Semester: July- December 2020

Subject: Small Animal Anesthesiology

Course Code: SAA-602

Full Marks: 40, Time: 2 Hours

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

1. a) How will you consider general management before anesthesia of a Persian cat? 5
b) How will you calculate the dose (with anesthesia protocol) of below mentioned agents for 25 kg dog of any orthopedic surgery (consider the OT duration 3 hours)? 5
Ketamine, xylazine, oxygen, isoflurane, halothane, diazepam
2. a) How will you manage waste anesthetic gas pollution during gaseous general anesthesia? 5
b) Briefly describe different anaesthetic breathing system. 5
3. a) Mention the dose and mode of action of drugs that are used for pain management in small animals. 5
b) Mention the functions of different parts of gaseous anesthesia machine. 5
4. How will you treat and decide the prognosis of cardiopulmonary arrest? 10
5. a) Briefly describe the toxicity of halothane, isoflurane, propofol, barbiturates and local anesthetics. 5
b) How will you perform brachial plexus block in dog? 5
6. a) How will you diagnose early and late stage of shock? 5
b) Plan the resuscitation protocol for an emergency respiratory distressed patient. 5

M.S. in Surgery; July-December Semester-2020

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 name of some common tracers used in nuclear medicine. 04
- b) What does a radiologist do? What is the difference between a radiologist and a radiographer? 03
- c) Mention the uses of radioactive substances in animals? 03
2. a) What is gamma camera in radiology? Draw a schematic diagram of parts for a Gamma camera. 04
- b) What do you mean by PET and SPECT? Differentiate between PET and SPECT in Nuclear Medicine. 03
- c) Nuclear medicine has a place in the study of brain trauma, brain tumors, stroke, dementia epilepsy and depression-explain how? 03
3. a) Are X-rays man-made? Write an example of artificial source of X-rays? 02
- b) What are some biological and acute effects of radiation? Radiation can harm biological systems by damaging the DNA of cells- explain in your opinion. 05
- c) How will you use radiotherapy for the treatment of cancer in dog? 03
4. a) Write the difference between physiotherapy and physical therapy? 02
- b) What do you mean by physiotherapy modality? Write the differences on use between Cryotherapy and Thermotherapy? 03
- c) Write the role of exercise and physical modalities in the treatment of osteoarthritis in animals? 05
5. Write short notes on **any two** of the followings:- 2x5=10
 - a) PEMF therapy
 - b) Ultrasound therapy
 - c) EMS
 - d) Late effects of Radiation therapy