

**Chattogram Veterinary and Animal Sciences University**

**DVM 4<sup>th</sup> year 2<sup>nd</sup> Semester Final Examination 2021**

**Subject: Zoo and Wild Animal Medicine (Theory)**

**Course Title: ZWM-402 (T)**

**Full Marks: 35, Time: 2 Hours**

(Figures in the right margin indicate full marks. Answer Two (2) questions from each section, where question No. 1 is compulsory. Use separate answer script for each section. Fractions of the questions must be answered together)

**SECTION-A**

1. a) Define Zoo, Aquarium, Safari Park, Wildlife Sanctuary and National Park with example. 4
- b) Justify the responsibilities of zoo veterinarians in the conservation of wild life in Bangladesh. 2
- c) Enlist 05(five) important zoonotic diseases in Human-Animal interface in Bangladesh. 2
  
2. a) Which nematode inhabits the oral cavity of an indigenous snake, How do you diagnose and treat it? 0.5+1.5=2
- b) Write down the cause, clinical signs, post mortem lesions and treatment of coccidian infestation in a Golden tree snake. 4
- c) How will you reduce the incidence of cannibalism in crocodiles? 3
  
3. a) Analyse the risk of human transmission of T.B from zoo animals. 3
- b) Briefly describe the etiology, clinical findings, diagnosis and treatment of MAC in Tapir. 3
- c) Prescribe for the following diseases: 3
  - i) Amoebiasis in 15 kg python
  - ii) Fowl typhoid in 15 kg ostrich
  - iii) Fascioliasis in deer

**SECTION-B**

4. a) Classify the viral disease of primates on the basis of transmission with examples. 2
- b) Write down the etiology, clinical findings and treatment of pyometra in a Gaur. 3
- c) Mention the upper respiratory tract diseases of the Royal Bengal Tiger. Write down the etiology, route of infection, clinical signs, post mortem lesions, diagnosis and treatment of feline pneumonitis in the Royal Bengal Tiger at the Chattogram Zoo, Chattogram. 1+3=4
  
5. a) Describe the etiology, clinical signs, treatment and control of pouch infection in a female koala at the National Zoo, Melbourne, Australia. 4
- b) Write down the etiology, transmission, clinical syndrome, zoonotic importance and treatment of plague in the Golden Hamster at the Animal Resource Branch, ICDDR, Mohakhali, Dhaka. 5
  
6. a) Describe the etiology, clinical findings, diagnosis and treatment of hook worm infestation in the Asiatic Black Bear at the Bangobandhu Sheikh Mujibur Rahman Safari Park, Dulahazara, Chokoria, Cox's Bazar. 3
- b) Write down the etiology, clinical signs, and treatment of sarcoptic mange infestation in camel at the Camel Park, Komolapur, Dhaka. 3
- c) Write short notes on "Nipah virus infection" by fruit bat in the world. 3

**Chattogram Veterinary and Animal Sciences University**

**DVM 4<sup>th</sup> year 2<sup>nd</sup> Semester Final Examination 2021**

**Subject: Farm Animal Medicine (Theory)**

**Course Title: FAM-402 (T)**

**Full Marks: 70, Time: 3 Hours**

(Figures in the right margin indicate full marks. Answer **Three (3)** questions from each section, where question No. 1 and 5 are compulsory. Use separate answer script for each section. Fractions of the questions must be answered together)

**SECTION-A**

1. a) Write down the pathogenesis, clinical findings and line of treatment of babesiosis in cattle 4  
b) What is CBPP? Describe the epidemiology and post-mortem findings of CBPP. 4  
c) Summarize the etiology and clinical findings of trypanosomosis in livestock. 3
2. a) Write down the clinical sign and line of treatment of a zoonotic protozoal disease which is transmitted by cat feces. 4  
b) Write down the clinical sign of lung worm infestation in dairy cow. 2  
c) Distinguish between eye worm infestation and mycoplasmal keratoconjunctivitis in goat. What suggestion would you give to owner for controlling these diseases? 4  
d) Discuss about drug of choice against different stages of fascioliasis. 2
3. a) Explain how leukopenia and anaemia develop in bovine theileriosis. 4  
b) Why is it hard to treat a case of mycotic mastitis? Justify. 4  
c) Describe the epidemiology and pathogenesis of coccidiosis in ruminants. 4
4. Write down the prescription of the following cases (any three): 3x4=12  
a) Humpsore in a 400 kg bullock  
b) Anaplasmosis in a 300 kg crossbred cow  
c) Taeniasis in a 75 kg pig  
d) Mange in a 40 kg goat

**SECTION-B**

5. a) What do you mean by myiasis? Classify myiasis according to their cause. 3  
b) Write down the field diagnosis and line of treatment of myiasis in farm animals. 5  
c) How will you diagnose and plan control measures of dermatophytosis in cattle. 3
6. a) What is pediculosis? Write down the aetiology and line of treatment of pediculosis in livestock. 4  
b) Write down the clinical signs and line of treatment of ascariasis in calves. 4  
c) Sketch the lifecycle of a fly responsible for causing myiasis. 4
7. a) Write down two injectable anthelmintic with their generic and trade names as well as dosage, route and course. 3  
b) Write down the name of diseases that are transmitted by tick. Prescribe for a 600 kg bull suffering from tick infestation. 3  
c) What are the precautionary measures the owner should adopt during spraying an insecticide or dipping and why? 3  
d) Name the gastrointestinal parasites causing diarrhoea in cattle. Write down the name of specific drug to combat them. 3
8. Short notes on (any three) 3x4=12  
a) Tick paralysis in animal  
b) Burn and scalds of farm animal  
c) Parasitic gastroenteritis in ruminants  
d) Mycoplasmal pneumonia in swine

**Chattogram Veterinary and Animal Sciences University**

**DVM 4<sup>th</sup> year 2<sup>nd</sup> Semester Final Examination 2021**

**Subject: Animal Biotechnology (Theory)**

**Course Title: ABT-402 (T)**

**Full Marks: 35, Time: 2 Hours**

(Figures in the right margin indicate full marks. Answer **Three (3)** questions from each section, where question No. 1 is compulsory. Use separate answer script for each section. Fractions of the questions must be answered together)

**SECTION-A**

1. a) What do you mean by “Animal Biotechnology”? List the objectives of Animal Biotechnology. 2
- b) Write down the application of biotechnology for the improvement of livestock. 3
2. a) How will you evaluate bull semen physically? 2
- b) What are the factors affecting semen production in animals? Briefly describe any three factors of them. 4
3. a) What do you mean by zygote and embryo? Write down the significance of embryo transfer technology. 3
- b) Write down the steps of Multiple Ovulation and Embryo Transfer (MOET). How will you synchronize oestrus in cows in MOET program? 3
4. a) What are the differences between gene cloning and reproductive cloning? Write down the uses of DNA cloning. 3
- b) How was the Dolly sheep produced? Explain in brief with neat diagram. 3

**SECTION-B**

5. a) Differentiate between the terms “IVF” and “IVM”. Write down the factors that influence IVF. 2
- b) Write the application of In vitro Fertilization. 2
- c) What are the various methods of embryo sexing? Briefly explain any one of them. 2
6. a) How will you produce a transgenic animal? Write down the potential benefits of transgenesis. 3
- b) What is cloning? List the potential benefits and harms of cloning. 3
7. a) What do you mean by genetic engineering? Write down the application of genetic engineering. 2
- b) What are the biotechnological tools used for recombinant DNA technology? Discuss briefly. 2
- c) Write short notes on restriction enzymes and DNA ligase. 2
8. a) What do you mean by “Omics”? Briefly explain the terms “genomics and proteomics”. 2
- b) List down the important databases and tools used in bioinformatics study. 2
- c) Briefly explain the uses of bioinformatics for livestock improvement. 2

**Chattogram Veterinary and Animal Sciences University**

**DVM 4<sup>th</sup> year 2<sup>nd</sup> Semester Final Examination 2021**

**Subject: Andrology and Clinical Artificial Insemination (Theory)**

**Course Title: ACA-402 (T)**

**Full Marks: 50, Time: 2 Hours**

(Figures in the right margin indicate full marks. Answer **Three (3)** questions from each section, where question No. 4 is compulsory. Use separate answer script for each section. Fractions of the questions must be answered together)

**SECTION-A**

1. a) Draw a fine structure of spermatozoa with labelling its different parts. Mention the normal time for formation of spermatozoa in bull, ram, buck, stallion and dog. 4
- b) What are the factors causing abnormalities of spermatozoa? Mention five primary abnormalities of spermatozoa that may cause infertility. 2
2. a) A two years old aged bull provided to you. How will you certify this bull for breeding purpose? Describe briefly. 4
- b) What measures you will take to control the semen borne diseases in animals? 2
3. a) Draw a cross section of testes with marking its different structure. 3
- b) Make a chart for onset of puberty and descent of testes in the following species: cattle, horse and dog. How does the testis regulate and maintain its own temperature required for spermatogenesis? 2+1=3
4. a) Calculate the ingredients for making 50 ml of an ideal semen diluent for buck semen preservation in frozen method. Mention the function of egg yolk and glycerol in diluent. 1+1=2
- b) Write the methods for evaluation of semen for the 3x1=3
  - i. Motility
  - ii. Concentration
  - iii. Plasma membrane integrity

**SECTION-B**

5. a) Give the diagnosis and line of treatment of the following conditions: 3x2
  - i. Seminal vasculitis in a bull with 350 kg body weight.
  - ii. CTVT in a dog with 60 kg body weight
  - iii. Paraphymosis in a dog with 50 kg body weight
6. a) Write short notes of any three 3x2
  - i. Sperm sexing
  - ii. Semen collection
  - iii. Semen freezing
  - iv. Ridgling
7. a) What are the factors of infertility in a bull? Describe briefly any one of them. 4
- b) Mention the salient points you should maintain to success AI? 2
8. a) Describe the procedure of AI in a cow. 3
- b) Define impotentia coeundi. Mention the copulatory patterns. 3

**Chattogram Veterinary and Animal Sciences University**

**DVM 4<sup>th</sup> year 2<sup>nd</sup> Semester Final Examination 2021**

**Subject: Pet and Companion Animal (Theory)**

**Course Title: PAM-402 (T)**

**Full Marks: 35, Time: 2 Hours**

(Figures in the right margin indicate full marks. Answer **Two (2)** questions from each section, where question No. 1 is compulsory. Use separate answer script for each section. Fractions of the questions must be answered together)

**SECTION-A**

1. a.) Enlist the core vaccines for dogs and cats. 2
- b.) Name five bacterial diseases of dogs. Write down the clinical findings, diagnosis and treatment of gastritis in pet animal. 3
- c.) Mention the toxic foods/substances for dogs and cats. Write down the treatment protocol for a case of paracetamol poisoning in cats. / 3
2. a.) A 4 months old kitten was brought to SAQTVH with the history of bilious vomition, extreme dehydration and occasional diarrhoea. While examined, the temperature was found 97°F. What will be your presumptive diagnosis and how can you treat the kitten? 3
- b.) What is tropical canine pancytopenia? Explain malassezia dermatitis in dogs. 3
- c.) Briefly describe the prudent use of steroid in pet animal. 3
3. a.) Write down the zoonotic significance of leptospirosis and toxoplasmosis. 3
- b.) Write down the etiology, clinical signs, treatment and prevention of canine plague. 3
- c.) Explain the term "blue eye". 3

**Section-B**

4. a.) Define kennel cough. Write down the etiology, clinical signs and treatment of canine parvo virus in dogs. 3
- b.) How will you diagnose and manage the oral cavity abscess in rabbits? 3
- c.) Write down the line of treatment of mastitis in rabbits. 3
5. a.) Write down the clinical signs of following diseases: 3x2
- i. Feline infectious peritonitis
- ii. Toxoplasmosis
- iii. Infectious canine hepatitis
- b.) Write the etiology, clinical signs and treatment of canine babesiosis. 3
6. Write short notes on any three 3x3=9
- a.) Salmonellosis in cats
- b.) Antibiotic toxicity in rabbits
- c.) Canine ehrlichiosis
- d.) Demodicosis in dogs

# Chattogram Veterinary and Animal Sciences University

DVM 4<sup>th</sup> year 2<sup>nd</sup> Semester Final Examination 2021

Subject: Food Hygiene and Veterinary Public Health (Theory)

Course Title: FVH-402 (T)

Full Marks: 70, Time: 3 Hours

(Figures in the right margin indicate full marks. Answer five (5) questions from each section. Use separate answer script for each section. Fractions of the questions must be answered together)

## SECTION-A

1. a) State the different sources of food borne pathogens with examples. 3.0  
b) Briefly discuss the extrinsic and intrinsic food environment factors affecting growth of microorganisms. 4.0
2. a) List the steps of HACCP. Differentiate critical control point1 (CCP1) from critical control point 2(CCP2) in the production process of food with examples. 3.0  
b) Write down the considerations and guidelines for designing an abattoir. 4.0
3. a) List the pre-slaughter treatments of meat animals with their impact on meat quality. 3.0  
b) List the different method of stunning. Briefly explain the best method of stunning. Briefly explain the best method of stunning with advantages and disadvantages. 4.0
4. a) List the different food preservation factors with their mode of actions and mode of achievements. 3.0  
b) Differentiate food preservatives from food additives. Provide a list of chemical food preservatives with target microorganisms and inclusion levels in a various food. 4.0
5. a) Define veterinary public health. How can veterinarians play their role in the public health sector? 3.0  
b) Categorize zoonotic diseases according to mode of transmission and ecosystem. 4.0
6. a) Define stress. Briefly describe the reactions of animal to stress. 5.0  
b) What is dark, firm and dry meat (DFD)? 2.0

## SECTION-B

7. a) Give two examples from each group of bacteria. i) Lactic acid forming bacteria ii) Proteolytic bacteria III) Saccharolytic bacteria IV) Rope forming bacteria V) Halophilic bacteria VI) Psychrotrophs 3.0  
b) List some yeast and mold important in food industry with their specific role. 4.0
8. a) Which compositional factors of food influence the microbial activity? Write down the roles of water activity (aw) and oxidation-reduction (O-R) potential for growth of microorganisms. 4.0  
b) How can you judge a food's fitness for consumption? 3.0
9. a) What is appertization? Write down a short description biological causes of spoilage in canned food? 4.0  
b) How do different factors influence the response of microorganisms to freezing 3.0
10. a) Classify food-borne disease. Food borne intoxication can be caused by either bacteria or fungi. Discuss this statement with an example of one bacterial agent and one fungal agent. 4.0  
b) Briefly describe the spoilage of meat under aerobic conditions. 3.0
11. a) Define BOD<sub>5</sub>. Discuss the abattoir effluent treatments. 4.0  
b) What is Kosher meat? Explain the shechita method of slaughter with specific role of 'shochet' and 'shomer'. 3.0
12. a) What is the importance of ante-mortem inspection in food animal? 4.0  
b) Judge the carcass condition in prospect of public health. I) Anthrax ii) Rabies iii) Hemorrhagic septicaemia iv) Tuberculosis v) Hydatidosis vi) Babesiosis vii) Johne's disease 3.0

**Chattogram Veterinary and Animal Sciences University**  
**DVM 4<sup>th</sup> year 2<sup>nd</sup> Semester Final Examination 2021**  
**Course Title: Agricultural extension (Theory)**  
**Course Code: AEX-402 (T)**  
**Full Marks: 35, Time: 2 Hours**

(Figures in the right margin indicate full marks. Answer **Three (3)** questions from each section, where question No. **8** is compulsory. Use separate answer script for each section. Fractions of the questions must be answered together)

**SECTION-A**

- |    |    |  |     |
|----|----|--|-----|
| 1. | a) | What do you mean by extension and agricultural extension?                    | 2.0 |
|    | b) | Enlist the principles of agricultural extension and explain any two of them. | 4.0 |
| 2. | a) | Extension education is a non-formal type of education. Explain.              | 3.0 |
|    | b) | Draw and describe the Berlo's model of communication.                        | 3.0 |
| 3. | a) | What is learning? List the elements of learning process.                     | 3.0 |
|    | b) | Describe the law of exercise in relation to livestock extension work.        | 3.0 |
| 4. | a) | Clarify the concepts of "Diffusion of innovation".                           | 2.0 |
|    | b) | Explain the steps of extension program planning with examples.               | 4.0 |

**SECTION-B**

- |    |   |   |           |
|----|---|---|-----------|
| 5. | a)  | Is the Department of Livestock Services (DLS) an extension organization? Justify your answer. | 3.0       |
|    | b)  | Describe the features of participatory approaches used by the extension professionals.        | 3.0       |
| 6. | a)  | Differentiate between project monitoring and evaluation.                                      | 3.0       |
|    | b)  | Explain motivation cycle with example.  | 3.0       |
| 7. | a)  | Define innovation and adopter categories.   | 2.0       |
|    | b)  | Describe the types and consequences of rejection in the innovation decision process.          | 4.0       |
| 8. | Write short notes on <b>any two</b> of the following: |   | 2.5x2=5.0 |
|    | a)  | Market creating innovation  |           |
|    | b)  | Public private partnership in livestock sector of Bangladesh                                  |           |
|    | c)  | Maslow's need theory  |           |

**Chattogram Veterinary and Animal Sciences University**  
**DVM 4<sup>th</sup> year 2<sup>nd</sup> Semester Final Examination 2021**  
**Course Title: Meat Science and Animal by-products Technology (Theory)**  
**Course Code: MAT-402 (T)**  
**Full Marks: 70, Time: 3 Hours**

(Figures in the right margin indicate full marks. Answer Three (3) questions from each section, where question No. 1 and 5 are compulsory. Use separate answer script for each section. Fractions of the questions must be answered together)

**SECTION-A**

1. a) Define bushmeat. Explain the mechanism of post-mortem acidification in meat. 4  
b) Illustrate the phenomena of conversion of muscle to meat. 3  
c) List the steps of cattle, goat and pig carcass dressing. Write down the mechanism of dry, firm and dark meat formation. 4
2. a) Discuss the different damages and defects of hides and skins. 4  
b) Define wool. Write down the characteristics of wool. Why wool has a lot of advantages over any other natural fibers? 4  
c) What is animal by-product? Write down the slaughterhouse by-products with their potential utilization for sustainable development of meat industry. 4
3. a) What do you mean by hides and skin? Write down the factors affecting the quality of hides and skin. 4  
b) State the process of curing and preservation of hides and skin. 4  
c) Briefly describe the factors that affect the price and quality of wool. 4
4. a) Differentiate food preservatives from food additives. Classify non-meat ingredients on the basis of function with at least five examples in each case. 4  
b) Describe the methods of meat preservation? Which method do you think most appropriate for a country like Bangladesh and why? 4  
c) "Meat protein is better than plant protein"- Justify the statement. 4

**SECTION-B**

5. a) List the methods of abattoir waste management. Discuss the sequence of reactions during anaerobic digestion of abattoir waste. 4  
b) Differentiate pyrolysis from incineration. 4  
c) State the current scenario of hides and skin in Bangladesh. As a specialist what is your suggestion regarding the development of hides and skin sector of Bangladesh? 3
6. a) List the most common synthetic packaging materials used in meat and meat product packaging. Briefly discuss the modified atmosphere packaging system of meat and meat products. 4  
b) State your opinion on the 'prospect of developing meat industry' in Bangladesh. 4  
c) Write down the approximate chemical composition of a typical meat. State the contributions of meat-derived fatty acids in human nutrition. 4
7. a) How quality grade of carcass is differed from yield grade by principle? Write down the physical differences of beef, carabeef, mutton, chevon and pork in a tabular form. 4  
b) Briefly discuss how excessive processed red meat consumption can cause carcinogenesis in human body. 4  
c) Write down the steps of meat plant cleaning and disinfection procedure. Classify cleaning agents with examples and specific uses in meat plant cleaning. 4
8. a) Draw and label a layout of an abattoir-cum-meat processing industry. 4  
b) How would you calculate dressing percentage of cattle? 4  
c) Write down the mechanism of natural process of tenderization in beef 4