

**MS (Pharmacology) January-June semester Final Examination-2018**  
**Chittagong Veterinary and Animal Sciences University**  
**Faculty of Veterinary Medicine**  
**Department of Physiology, Biochemistry and Pharmacology**  
**Course title: Molecular Immuno-pharmacology**  
**Course Code: MCP-601**  
**Total Marks: 40**

**Answer any 8 questions and figure in the right margin indicate full marks**

- |    |   |   |
|----|---|---|
| 1  | Describe the elements of immune system?                                   | 5 |
| 2  | Enumerate the clinical uses of immunosuppressive drugs?                   | 5 |
| 3  | Describe the immunologic reactions to drugs and drug allergy.             | 5 |
| 4  | Describe the cellular immunity mechanism against intracellular pathogens. | 5 |
| 5  | What are the signs and symptoms of hypersensitivity?                      | 5 |
| 6  | Describe the immune response mechanism against vaccine antigen            | 5 |
| 7  | Do vaccines temporarily weaken the immune system? Justify your answer     | 5 |
| 8  | What drugs interact with oral antihistamines                              | 5 |
| 9  | Describe T-cell Biology and its Application to Immunopharmacology         | 5 |
| 10 | Enumerate the Mechanism of action of immunomodulatory drugs (IMiDS)       | 5 |

January-June MS in Pharmacology Final Examination-2018  
Department of Physiology, Biochemistry and Pharmacology  
Faculty of Veterinary Medicine  
Chittagong Veterinary and Animal Sciences University  
Course Title: General Pharmacology; Course code: GPH-601  
Total Marks: 40; Time: 2.00 hours

Answer any Four (4) questions from the followings:

- Q1.** a. Define Biotransformation. Write down the function of Biotransformation. 5.0  
b. Briefly describe the process of Biotransformation. 5.0
- Q2.** a. Differentiate drug from medicine. Write down the sources of drugs with examples. 5.0  
b. Briefly describe the branches of pharmacology. 5.0
- Q3.** a. Briefly describe the drug toxicity in livestock. 5.0  
b. Briefly describe the standardization of drugs. 5.0
- Q4.** a. Define Bioavailability and Plasma half-life of a drug. 5.0  
b. Define and classify clinical pharmacology. Write down the principals of therapy and chemotherapy. 5.0
- Q5.** a. Write down the factors that effects on drug disposition. 5.0  
b. How diet effects on drug metabolism in livestock. 5.0

January-June MS in Pharmacology Final Examination-2018  
Department of Physiology, Biochemistry and Pharmacology  
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Course Title: Chemotherapy; Course code: CHT-601  
Total Marks: 40; Time: 2.00 hours

Answer any Four (4) questions from the followings:

- Q1.** a. What do you mean by potentiated sulphonamides? Write down the mode of action of it. 5.0  
b. Write down the dose, mode of action, indication and contraindication of sulphonamides in poultry. 5.0
- Q2.** a. Write down the mode of action, dose, indication and contraindication of amoxicillin in goat. 5.0  
b. How and why tetracycline is not suitable for production animals- briefly describe. 5.0
- Q3.** a. Define and classify fluoroquinolones. Differentiate quinolone from fluoroquinolones. 5.0  
b. Describe the mode of action, dose, indication and contraindication of enrofloxacin in poultry. 5.0
- Q4.** a. Differentiate therapy from chemotherapy. Write down the principals of therapy. 5.0  
b. Describe the mode of action, dose, indication and contraindication of amphotericin-B in poultry. 5.0
- Q5.** a. Differentiate antiseptics from disinfectant. What are the possible uses of disinfectant in livestock? 5.0  
b. Briefly describe the clinical application of Interferon and ganciclovir in livestock. 5.0

**Chittagong Veterinary and Animal Sciences University**

Department of Physiology, Biochemistry & Pharmacology

MS (Pharmacology)

Sub: Food Toxicology & Public health (FTP-601)

Total Marks: 40

Time: 02 hours

**Answer the following questions (Any five):**

1. a. What do you mean by food poisoning and food hazard? 2.5  
b. What are the effects of food hazard on public healths? 2.5  
c. What are the precautionary measures you are takes to prevent food hazard? 3.0
2. a. Define food adulterations. 2.5  
b. How you differentiate natural food color with synthetic food color? 2.5  
c. How adulteration of livestock product (meat, milk & egg) is done? 3.0
3. a. How HACCP play a role to produce quality food? (Principles of HACCP) 2.5  
b. What are causes of food borne disease. 2.5  
c. Define food borne diseases & classily it with a schematic manner. 3.0
4. a. Define zoonotic diseases. How this diseases spread? 4.0  
b. Name some zoonotic diseases with the symptoms of these diseases in human. 4.0
5. a. Differentiate between food safety and food security. 2.5  
b. How does food contamination occur? What are the causes of food contamination? 3.0  
c. What you mean by antibiotic free low cholesterol egg? 2.5
6. a. Differentiate between food and drug toxicity. 2.5  
b. What is drug resistance? How drug resistance occurred in human body? 2.5  
c. What are the precautionary measures to prevent drug resistance. 3.0
7. Short note (any four): 2×4=8
  - a) Radiation exposure;
  - b) "Potka" fish poisoning;
  - c) Lathyrism;
  - d) Melamine toxicosis;
  - e) Salt poisoning.

Chittagong Veterinary and Animal Sciences University  
Department of Physiology, Biochemistry and Pharmacology  
**MS in Pharmacology January-June Semester Final Examination-2018**  
**Course Title: General Toxicology**  
**Course Code: GTL-601**  
**Total Marks: 40.0; Time: 2 hours**

*Figures in the right margin indicate full marks. Answer any **Four (4)** questions from the followings where **Question no. 1 (ONE)** is compulsory:*

1. a) Differentiate poison, toxin and venom. Write about metabolic fate of a toxicant. 4.0  
b) What is your plan to set up a developed toxicological reference laboratory? 6.0  
c) How will you prepare a toxicological sample on a field circumstances for preservation and sending to that reference laboratory? 3.0
2. a) Classify the toxicant on the basis of toxicity potential. 2.0  
b) Define LD<sub>50</sub>. How LD<sub>50</sub> used to evaluate the extent of toxicity of toxicant in the body? 3.0  
c) Graphically represent the principle of treatment on a toxicological case. How threshold level of a toxicant can be increased by using therapeutic agent? 4.0
3. a) Enlist the metal and nonmetal poisons of veterinary importance. How tube-well water causes toxicity to the animal? Diagnose and treat them. 5.0  
b) What is the common mechanism of nitrite poisoning in cattle? Differentiate nitrite poisoning from other common toxicant which causes haemo-toxicity? 4.0
4. a) Due to environmental pollution, lead is a common threat for human and animal both. What are the affects of it on the body? How can you treat and manage the poison? 4.0  
b) Justify the relationship between copper and molybdenum intoxication? Write about line of treatment of both cases. 5.0
5. Write short note (any three): 9.0
  - i) Universal antidote
  - ii) Alkali Disease
  - iii) Factors affecting toxicity
  - iv) Circumstantial evidence

Chittagong Veterinary and Animal Sciences University  
Department of Physiology, Biochemistry and Pharmacology

**MS in Physiology Final Examination 2018**

**Semester: January-June**

Course Title: Animal Behavior and Welfare (Theory)

Course Code: ABW-601

Total marks: 40, Time: 2 hours

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

1. a. Classify farm animal behavior. Briefly describe the social behavior of cattle. 5  
b. How can you assess the welfare of dairy cow? Discuss the human-animal relationships (HARs) in dairy farm. 5
2. a. What is humane slaughter? Discuss the welfare issue at the slaughterhouses in Bangladesh 5  
b. Enlist the purposes of transportation of animal? What are the OIE guidelines for land and sea transport in cattle. 5
3. a. List the five principles of animal welfare. How does the concept of animal welfare is developed in Bangladesh? 5  
b. What are the behavior indicators of poor animal? Write the stereotypy of cattle, chickens and horse. 5
4. a. List the estrus behavior of dairy cow. How do you manage heat stress in dairy farm? 5  
b. Define stress. Write a short note on hypothalamo-pituitary-adrenal axis and stress. 5
5. a. What are the welfare indicators at livestock market? Briefly discuss the livestock transportation system in Bangladesh. 5  
b. Enlist the suggestive ways to promote animal welfares situations in Bangladesh 5

Chittagong Veterinary and Animal Sciences University  
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**MS in Physiology Final Examination 2018**

**Semester: January-June**

Course Title: Body Fluids and Circulatory Physiology (Theory)

Course Code: BCP-601

Total marks: 40, Time: 2 hours

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

- 1 a. Why blood is called transport media? 3
- 1 b. List the name of fluid compartments of the body. Write down the important constituents of extracellular and intracellular fluids. 4
- 1 c. Write down the composition and functions of plasma protein. 3
- 2 a. Write down the formation and course of cerebrospinal fluid. 3
- 2 b. Write the mechanism of lymph formation in sketch form. 4
- 2 c. List the circulations exist in the body. State the importance of a hepato-portal circulation. 3
- 3 a. What are the components of blood vascular system? Sketch the genesis of erythropoiesis. 3
- 3 b. What are the derivatives of hemoglobin? Discuss hemoglobin synthesis. 4
- 3 c. Why heart is called autonomic organ? Write heart valves with their function. 3
- 4 a. Mention the properties and functions of neutrophil and basophil. 3
- 4 b. Sketch the intrinsic mechanism of blood coagulation. 3
- 4 c. What is the relationship between cardiac output and stroke volume? Write down the regulating factors of cardiac output. 4
- 5 a. Why inside of a cell is negative? Briefly describe the successive stages of action potential in a diagram. 3
- 5 b. Briefly describe the defensive properties of leukocyte. 3
- 5 c. List the primary factors of blood coagulation. State the factors that increased blood clotting time. 4

**MS (Physiology) January-June semester Final Examination-2018**  
**Chittagong Veterinary and Animal Sciences University**  
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**Course title: Immunophysiology**  
**Course Code: IPH-601**  
**Total Marks: 40**

**Answer any 8 questions and figure in the right margin indicate full marks**

- |    |  |   |
|----|--|---|
| 1  | What does the lymphatic and immune system do?  | 5 |
| 2  | How do T cells recognize an antigen?   | 5 |
| 3  | Describe the Immuno-regulation by covalent antigen-antibody complexes                          | 5 |
| 4  | Describe the humoral immunity against intracellular pathogens                                  | 5 |
| 5  | What is the complement system and how does it work?  | 5 |
| 6  | What is the classical pathway of the complement system?  | 5 |
| 7  | What are some diseases that weaken the immune system?  | 5 |
| 8  | Describe the Structure and function of major histocompatibility complex (MHC) class I antigens | 5 |
| 9  | What is autoimmunity in the body?  | 5 |
| 10 | What foods to avoid if you have autoimmune disease?  | 5 |

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**MS in Physiology Final Examination 2018**

**Semester: January-June**

Course Title: Endocrine and Reproductive Physiology (Theory)

Course Code: ERP-601

Total marks: 40, Time: 2 hours

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

1. a. List the hormones secreted from gonad. How do you determine the cow and doe are in estrus? 5  
b. Define reflex ovulation with example. Briefly describe the graphical illustration of hormone during estrus cycle of a cow. 5
2. a. What are the precursors of steroid hormone? Write down the physiological role of thyroxine hormone. 5  
b. Classify hormone with example? Write down the mode of action of steroid hormone. 5
3. a. Why cortisol is called stress hormone. Write down the functions of catecholamine. 5  
b. What are the hormones of calcium homeostasis? Write the functions of PTH and calcitonin. 5
4. a. How do testes regulate temperature for spermatogenesis? What are the physiological role of accessory sex organ of horse. 5  
b. What are the functions of primary sex organ? Write down the composition of semen 5
5. a. List the hormones involved in mammary gland development? Briefly describe milk let down in cow. 5  
b. Classify placenta. What are the causes of retained placenta? How will you manage retained placenta in cow? 5

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**MS in Physiology Final Examination 2018**

**Semester: January-June**

Course Title: Avian Physiology (Theory)

Course Code: AVP-601

Total marks: 40, Time: 2 hours

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

1. a. Differentiate the followings; 3×2=6
  - i. Mammalian and avian respiratory system
  - ii. Mammalian and avian digestive system
  - iii. Mammalian and avian urinary system
- b. List the parts of oviduct. Write down the mechanism of egg formation in White Leg horn? 4
2. a. List the mechanical factors of digestion? Enumerate the proteolytic, amylolytic and lipolytic enzymes found in the gastrointestinal tract. 5
- b. What are the parts of avian digestive system? Briefly describe the protein digestion and absorption in chicken. 5
3. a. List the air sac found in a chicken? Write the physiological role of air sac in respiration of poultry. 5
- b. Write the compositions of urine of birds. Briefly describe the mechanism of urine formation in chicken. 5
4. a. What are the causes of panting? How does birds regulate body temperature in extreme hot weather? 5
- b. Briefly discuss the regulation of erythrocyte production in birds. 5
5. a. What is the role of heparin in body? Write down the defensive properties of leukocyte in birds. 5
- b. Why is heart rate higher in birds? Briefly discuss the regulation of heart in birds. 5

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**Course title: Molecular Cell Physiology**  
**Course Code: MCP-601**  
**Total Marks: 40**

**Answer any 8 questions and figure in the right margin indicate full marks**

- 1 Why do cells communicate with each other? What happens when cell communication goes wrong? 5
- 2 What is the purpose of a checkpoint in the cell cycle? What is a cellular communication system? 5
- 3 Describe signaling between cells of one organism and multiple organisms 5
- 4 Describe the cell signaling pathway within a typical cell 5
- 5 Why is the central dogma of biology important? 5
- 6 Genes specify functional products (such as proteins)- justify this statement 5
- 7 Describe the cytoskeleton and its role in intracellular transportation 5
- 8 Describe signal transduction mechanism in cellular communication 5
- 9 Describe the methods and techniques in molecular biology 5
- 10 Enumerate the basic processes governing the intermediary metabolism 5

# Chittagong Veterinary and Animal Sciences University

Department of Physiology, Biochemistry & Pharmacology

MS (Pharmacology)

Sub: Phytotoxicology (PTL-601)

Total Marks: 40

Time: 2 hours

**Answer the following questions (Any four):**

**4 × 10 = 40**

1. a. What is poisonous plant? Why poisons in plants?  
b. what are the toxic principle of plant? Enumerate ten toxic principles with their plants.  
c. What is the general treatment for the plant toxicity?
2. a. What is photosensitization? What plants responsible for photosensitization?  
b. How plant produce photosensitization?  
c. How you diagnose, treat and manage the case of photosensitization?
3. a. What plants affect CNS? Name some mushroom causing CNS signs with treatment.  
b. What are the factors affect the toxicity? Name some oxalate containing plant.  
c. How plant having oxalic acid do harm to animal body?
4. a. What are the toxic principle of Datura, Strychnine, Oleander, Rati, Varendra poisoning?  
b. What is lathyrism? How neurolathyrism develop with its signs of toxicity.  
c. Write down toxic principle, clinical sign, treatment of sorghum poisoning.
5. a. What are the diagnostic spot test for Nitrite, Cyanide and Oxalate poisoning?  
b. What plant causes carcinogenic and tera togenic effect with their treatment.  
c. What plants are responsible for cyanide toxicity? What is the mode of action of toxicity with treatment of it.
6. **Short note (any four):**  
a) Castor bean poisoning; b) Kalmi poisoning; c) Illicite plant poisoning; d) Alkali disease; e) Marijuana; f) Tobacco; g) Cardioactive glycoside poisoning.