

January-June MS in Pharmacology Final Examination-2015  
Department of Physiology, Biochemistry and Pharmacology  
Faculty of Veterinary Medicine  
Chittagong Veterinary and Animal Sciences University  
Course Title: Autacoids and their Pharmacological modulators  
Course code: APM-601  
Total Marks: 40; Time: 2.00 hours

Answer any 4 (Four) Questions from the following:

- Q1. a. Define and classify autacoids with examples. Differentiate autacoids from hormones. 5  
b. Write down the biosynthesis and pharmacological effect of prostaglandins. 5
- Q2. a. Write down the biosynthesis and pharmacological effect of Histamine. 5  
b. How is histamine release? Write down the pharmacological effect of H1 and H2 receptor blocker. 5
- Q3. a. Define and classify NSAIDs with examples. Write down the mode of action, dose, indication and contraindication of Ketoprofen in Cattle. 5  
b. Write down the mode of action, dose, indication and contraindication of Dexamethasone in livestock. 5
- Q4. a. Define antihistaminic with examples. Write down the list of antihistaminic and prostaglandin drugs available in Bangladesh. 5  
b. What is the logic for bend of Diclofenac and Ketoprofen in Bangladesh? How NSAIDs reduce fevers? 5
- Q5. Write short notes on (any four) 2.5X4= 10  
a. Serotonin; b. Immune-suppressive drugs; c. Diclofenac;  
d. SAIDs; e. H1 receptor blocker



**Chittagong Veterinary and Animal Sciences University**  
**Department of Physiology, Biochemistry and Pharmacology**  
**MS in Pharmacology January-June Semester Final Examination-2015**

**Course Title: Phytotoxicology**

**Course Code: PTL-601**

**Total Marks: 40**

**Time: 2 hours**

*Answer the following questions (any four):*

- |    |                                  |  |            |
|----|----------------------------------|--|------------|
| 1. | a.                               | Differentiate Phytotoxicology and Phytobiotics.  | 3          |
|    | b.                               | How does detoxification mechanism of plant grow in grazing animals?  | 3          |
|    | c.                               | Describe common diagnosis of plant poisoning.  | 4          |
| 2. | a.                               | What do you mean by Clinical Biochemistry in Toxicology? Make a list of phytotoxin causing abortion in pregnant cow. | 3          |
|    | b.                               | Define teratogenicity. Make a list of teratogenic plant with their mode of action and treatment.                     | 3          |
|    | c.                               | Write down the treatment of castor bean poisoning.   | 4          |
| 3. | a.                               | Why poison in plant? Write down the toxic principles of Oleander, Dhutura, Karabi, oak, Catnip, Nettle.              | 3          |
|    | b.                               | Write down the common name of illicit drug plants. Describe condition of poisoning of illicit drug plants.           | 3          |
|    | c.                               | Describe plants that contains cardioactive glycosides.   | 4          |
| 4. | a.                               | Write down the common treatment of phytotoxin both in large and small animals.                                       | 3          |
|    | b.                               | Name some protoplasmic poison causing species and their clinical signs.  | 3          |
|    | c.                               | Write down the diagnosis, treatment and prescription of Kalmi poisoning in goat.                                     | 4          |
| 5. | Write down short note (any five) |  | 5 x 2 = 10 |
|    | a.                               | Mashroom poisoning   |            |
|    | b.                               | Panther amanita  |            |
|    | c.                               | Aflatoxicosis  |            |
|    | d.                               | Precatory bean   |            |
|    | e.                               | Cyanogenic plant poisoning   |            |
|    | f.                               | Mechanically injurious plant toxicity  |            |



**Chittagong Veterinary and Animal Sciences University**  
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**MS in Pharmacology January-June Semester Final Examination-2015**

**Course Title: Phytotoxicology**

**Course Code: PTL-601**

**Total Marks: 40**

**Time: 2 hours**

*Answer the following questions (any four):*

- |    |    |  |            |
|----|----|--|------------|
| 1. | a. | Differentiate Phytotoxicology and Phytobiotics.  | 3          |
|    | b. | How does detoxification mechanism of plant grow in grazing animals?  | 3          |
|    | c. | Describe common diagnosis of plant poisoning.  | 4          |
| 2. | a. | What do you mean by Clinical Biochemistry in Toxicology? Make a list of phytotoxin causing abortion in pregnant cow. | 3          |
|    | b. | Define teratogenicity. Make a list of teratogenic plant with their mode of action and treatment.                     | 3          |
|    | c. | Write down the treatment of castor bean poisoning.   | 4          |
| 3. | a. | Why poison in plant? Write down the toxic principles of Oleander, Dhutura, Karabi, oak, Catnip, Nettle.              | 3          |
|    | b. | Write down the common name of illicit drug plants. Describe condition of poisoning of illicit drug plants.           | 3          |
|    | c. | Describe plants that contains cardioactive glycosides.   | 4          |
| 4. | a. | Write down the common treatment of phytotoxin both in large and small animals.                                       | 3          |
|    | b. | Name some protoplasmic poison causing species and their clinical signs.  | 3          |
|    | c. | Write down the diagnosis, treatment and prescription of Kalmi poisoning in goat.                                     | 4          |
| 5. |    | Write down short note (any five)   | 5 x 2 = 10 |
|    | a. | Mashroom poisoning   |            |
|    | b. | Panther amanita  |            |
|    | c. | Aflatoxicosis  |            |
|    | d. | Precatory bean   |            |
|    | e. | Cyanogenic plant poisoning   |            |
|    | f. | Mechanically injurious plant toxicity  |            |



**Chittagong Veterinary and Animal Sciences University**  
**Department of Physiology, Biochemistry and Pharmacology**  
**MS in Pharmacology January-June Semester Final Examination-2015**  
**Course Title: Food Toxicology and Public Health**

**Course Code: FTP-601**

**Total Marks: 40**

**Time: 2 hours**

*Answer the following questions (any four):*

1.
  - a. Differentiate food safety and food security. 2
  - b. Write in brief the historical background of Food Toxicology and Public health. 3
  - c. Write down the sources and basic symptoms of food poisoning. How does food poisoning spread? 5
  
2.
  - a. Define food hazard? What are the types of food hazard? Describe emerging challenges in food security in Bangladesh. 5
  - b. What are the food safety basic laws? Write a report regarding a proposed amendment of certain sections of the Bangladesh Pure Food Ordinance, 1959 (Ordinance No. LXVIII of 1959). 5
  
3.
  - a. What is food adulteration? How does livestock meat adulterated? Write down the procedure of a multiplex-PCR-based approach for reliable identification of livestock meat in Bangladesh. 5
  - b. Why and how does fish adulterated with formalin? What types of pesticides are used in dried fish and how it should be avoid? 5
  
4.
  - a. Differentiate synthetic and natural food colour. Write down the classification of food colours. 5
  - b. How fresh milk is usually adulterated and how artificial milk is being prepared? 5
  
5. Write down short note (any two) 2 x 5 = 10
  - a. Food poisoning bacteria
  - b. Risk analysis used in Food safety
  - c. Aquatic Biotoxins



**Chittagong Veterinary and Animal Sciences University**  
**Department of Physiology, Biochemistry and Pharmacology**  
**MS in Pharmacology January-June Semester Final Examination-2015**  
**Course Title: Chemotherapy**  
**Course Code: CHT-601**  
**Total Marks: 40**  
**Time: 2 hours**

*Answer the following questions (any four):*

1.
  - a. Define chemotherapeutic triangles and how does chemotherapy and chemotherapeutic act on host body? 5
  - b. Write down the history, biosynthesis, mode of action, activity, induction of resistance of Teixobactin. 5
  
2.
  - a. What is herbal drug? Write down the medicinal herbs diversity, their appropriate collection, utilization and conservation. 3
  - b. Define drug residues. Write down the antibiotic determination methods from poultry tissues. 3
  - c. How will you interpret TLC result? 4
  
3.
  - a. What is Endocrine and Immune Pharmacology. Write down the drugs for oestrus synchronization, cystic ovary and pyometra in cow with dose and route. 5
  - b. Define fluid therapy. How will you diagnose and treat a dehydrated Milk fever case of a cow? 5
  
4.
  - a. Define Pharmacy, Pharmacodynamics and Pharmacokinetics. 3
  - b. Classify antifungal drugs with their mode of action, contraindication, toxicity in tabular form. 3
  - c. What is Carn icterus and Stevens Joint Syndrome? How will you avoid crystaluria? 4
  
5.
  - a. Are Sulphonamides bactericidal or bacteriostatic? 1
  - b. In what circumstances are Quinolones contraindicated in companion animals? 3
  - c. What is a simple way to detect early signs of renal damage caused by aminoglycoside use? 3
  - d. Penicillins are generally safe, but they occasionally cause death in a treated animal-How does this happen? 3



January-June MS in Pharmacology Final Examination-2015  
Department of Physiology, Biochemistry and Pharmacology  
Faculty of Veterinary Medicine  
Chittagong Veterinary and Animal Sciences University  
Course Title: General Toxicology  
Course code: GTL-601  
Total Marks: 40; Time: 2.00 hours

Answer any 4 (Four) Questions from the following:

- Q1. a. Define Toxicology and Therapeutic Index. Briefly describe the branches of Toxicology. 5  
b. Differentiate poison from toxin. Classify toxicant on the basis of target organ, and toxicity potentials. 5
- Q2. a. Briefly describe the measures of toxicity. 4  
b. Briefly describe the general treatment of a poisoning case. 6
- Q3. a. Define and classify antidote with examples. Define universal antidote. 5  
b. What are factors involved in nitrate poisoning? How will you diagnose and treat nitrate poisoning in livestock. 5
- Q4. a. Write down the mode of action, diagnosis and treatment of acute arsenic poisoning in cattle. 5  
b. What is Alkali disease? Write down the mode of action, diagnosis and treatment of Alkali disease in poultry. 5
- Q5. Write short notes on (any four) 2.5X4= 10  
a. Common salt poisoning; b. Lead poisoning; c. Fluoride poisoning;  
d. Teart disease; e. Scope of toxicology



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Course Title: General Pharmacology  
Course code: GPH-601  
Total Marks: 40; Time: 2.00 hours

Answer any 4 (Four) Questions from the following:

- Q1. a.** Differentiate drug from medicine. Classify drugs based on source and therapeutic indications. **5**
- b.** What is the function of biotransformation? Briefly describe the drug toxicity. **5**
- Q2. a.** Define Biological half life, Bioavailability, Agonist and Antagonist. **5**
- b.** Briefly describe the branches of Pharmacology. **5**
- Q3. a.** Define and classify clinical pharmacology. Differentiate therapeutic from chemotherapeutics. **5**
- b.** Define and classify drug incompatibility. Briefly describe the adverse drug reactions. **5**
- Q4. a.** Briefly describe the factors those modify the drug effects and drug dose. **5**
- b.** Briefly describe the renal clearance and total body clearance of drugs. **5**
- Q5.** Write short notes on (any four) **2.5X4= 10**
- a. Pharmacokinetics; b. Pro-drug; c. Pharmacotherapeutics;  
d. Drug accumulation; e. Routes of administration of drug



**Chittagong Veterinary and Animal Sciences University**  
**MS in Physiology January-June Semester Final Examination 2015**  
**Department of Physiology, Biochemistry and Pharmacology**  
**Course Title: Avian Physiology**  
**Course Code: AVP-601**  
**Full Marks: 40**  
**Time: 2 hours**

*Figures in the right margin indicate full mark. Answer any 4 (FOUR) from the following questions.*

1. a. What are the parts of avian digestive system? Briefly explain about crop milk. 5  
b. Briefly describe the carbohydrate digestion in chicken. 5
2. a. What are the parts of oviduct and how those parts are contributing in egg formation? 5  
b. Write down the mechanism of egg shell formation of poultry. 5
3. a. What are the parts of respiratory system of poultry? Write down the role of air sac in respiration of poultry. 5  
b. What are the lymphoid organs in chicken and duck? Differentiate between adaptive and innate immunity in birds. 5
4. a. What is semen? Briefly sketch the spermatogenesis in chicken. 5  
b. Write down the granulopoiesis in chicken. How will you differentiate monocyte from lymphocyte? 5
5. a. Enumerate the diverticium of cloaca. Briefly describe the regulation of urine volume in chicken. 5  
b. Define cardiac cycle, venous return. How does heart beat regulation occur in chicken? 5



Chittagong Veterinary and Animal Sciences University  
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**MS in Physiology Final Examination 2015**

**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. Write down the importance of studying animal behavior? List the tools that are used for recording animal behavior. 3
- b. How do you recognize leader in a group of animal? Discuss about social organization of cattle. 4
- c. How do dairy cattle adjust their behavior in hot weather? 3
- 2 a. Write a short note on temperament and emotional behavior. 3
- b. Write down the methods of slaughter of animal? Write a short note about slaughter houses of Bangladesh. 4
- c. What are the behavior indicators of normal animal? What is dominance, hierarchies and leadership? 3
- 3 a. How can you assess the animal welfare? Why assessing poor welfare is important in study of farm animal welfare? 3
- b. What are the modes of land transportation in Bangladesh? What are the OIE guidelines for land transport of cattle? 4
- c. What are human-animal relationships (HARs)? How does it improve the welfare and productivity of dairy animal? 3
- 4 a. What are the five principles of animal welfare? Write down the critical points of welfare during cattle handling and transport. 3
- b. Define ethogram, flight distance, point of balance, monocular vision, and binocular vision. 3
- c. What is stereotypy? Write down the abnormal behavior of cattle, horse and chickens. 4
- 5 a. Write down the estrous behavior of dairy cow. What are the relationship between good welfare and production of a dairy farm? 3
- b. Do you find any relation between animal welfare and economy? Briefly discuss about it. 3
- c. Briefly discuss about recent development of animal welfare in Bangladesh. 4



Chittagong Veterinary and Animal Sciences University  
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**MS in Physiology Final Examination 2015**

**Semester: January-June**

Course Title: Endocrine and Reproductive Physiology (Theory)

Course Code: EFP-601

Total marks: 40, Time: 2 hours

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

- 1 a. Define silent estrus and estrus cycle. Describe the graphical illustrations of different reproductive hormones during estrus cycle of a cow. 3
- b. What are the follicular phases of estrus cycle of a cow? How do you determine the cow and doe are in estrus? 4
- c. List the hormones of placenta. How is milk let down in cow? 3
- 2 a. State the role of progesterone and prostaglandin in reproduction. 3
- b. What is the function of sertoli cells? Show a diagrammatic representation of spermatogenesis in a bull. 4
- c. What is superovulation? How could superovulation be performed? 3
- 3 a. Why aldosterone is known as life saving hormone? How this hormone is regulated? 3
- b. List the name of catecholamines. Write down the physiological effects of them. 4
- c. How is parturition initiated? Write down the mechanism of parturition of a cow. 3
- 4 a. Describe the effects of thyroid hormones on animal body. 3
- b. What are the differences between steroid and protein hormones? Briefly discuss about feed back loop. 3
- c. Which vitamin can act as a hormone and why? Show in schematic way about the activation of that vitamin in kidney. 4
- 5 a. What is androgen? Write down the functions of testosterone. 3
- b. What is synchronization? Write down the detailed use of prostaglandin in the process of estrus synchronization. 3
- c. Briefly discuss the synthesis of steroid hormone. 4



**Chittagong Veterinary and Animal Sciences University**  
**MS in Physiology January-June Semester Final Examination 2015**  
**Department of Physiology, Biochemistry and Pharmacology**  
**Course Title: Immunophysiology**  
**Course Code: IMP-601**  
**Full Marks: 40**  
**Time: 2 hours**

*Figures in the right margin indicate full mark. Answer any 4 (FOUR) from the following questions.*

1. a. Define immunity. Differentiate the identifying features of B and T lymphocytes. 5
- b. Compare the primary and secondary lymphoid organs. 5
2. a. Show in a sketch the production of monoclonal antibody. 5
- b. Define interferon and interleukin. What are the functions of cytokines? 5
3. a. What is vaccine? Enlist the characteristics of an ideal vaccine. 5
- b. Define adjuvant with classify them. What are the main causes of vaccination failure? 5
4. a. Enlist the vaccines produced by LRI, Mohakhali, Dhaka for poultry and animals. Differentiate between inactivated and live attenuated vaccine. 5
- b. Define hypersensitivity and enlist their types with example. Enlist some auto immune diseases. 5
5. a. Enlist the components of humoral immunity and mediators of immediate hypersensitivity. 5
- b. Briefly describe the mechanism of serum sickness. 5



**Chittagong Veterinary and Animal Sciences University**  
**MS in Physiology January-June Semester Final Examination 2015**  
**Department of Physiology, Biochemistry and Pharmacology**  
**Course Title: Molecular Cell Physiology**  
**Course Code: MCP-601**  
**Full Marks: 40**  
**Time: 2 hours**

*Figures in the right margin indicate full mark. Answer any 4 (FOUR) from the following questions.*

1. a. Define plasma membrane. What are the functions of plasma membrane? 5  
b. Briefly describe the Chargoff's rule of DNA composition. 5
2. a. Define sense, antisense, exons, introns, mRNA splicing. 5  
b. Briefly describe the DNA double Helix. 5
3. a. What is ion channel? Classify different types of ion channels. 5  
b. Show in a table the various ionic concentrations in fluid compartments of the body. Enlist the resting potential of different cells. 5
4. a. Define central dogma. How does replication occur in a eukaryotic cell DNA? 5  
b. What are the advanced tools and techniques in molecular biology? Sketch the PCR method. 5
5. a. Define cell communication. What are the unique signaling pathways in autocrine, paracrine and endocrine regulation? 5  
b. Enumerate the contemporary view on cell survival and cell death. 5



Chittagong Veterinary and Animal Sciences University  
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**MS in Physiology Final Examination 2015**

**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. List the primary factors of blood coagulation. 3
- b. What are the fluids compartments of a cow? Write down the important constituents and functions of extracellular and intracellular fluids. 4
- c. Briefly describe the conduction of impulses of heart. 3
- 2 a. What is the fate of RBC, show in a sketch? 3
- b. Write a short note about plasma protein. 4
- c. List the name special circulations. Briefly discuss about systemic and pulmonary circulation. 3
- 3 a. What are the materials needed before collection of blood? Write down the procedure of collection of serum and plasma from an organized dairy farm 3
- b. Mention the cells of defense mechanism with their role in that process. 4
- c. What are the causes of edema? Write down the functions and formation of lymph in dairy cow? 3
- 4 a. Mention the properties and important functions of granulocytes cells of blood. 3
- b. Write down the differences between extrinsic and the intrinsic mechanism of blood coagulation. 3
- c. What are the relationship between cardiac output and stroke volume? Write down the regulating factors of cardiac output. 4
- 5 a. What is action potential? Briefly describe the successive stages of action potential in a diagram. 3
- b. List the name of transcellular fluids. Mention the functions of synovial fluid and CSF. 3
- c. List the name of natural anticoagulants. State the factors that hasten and prevent coagulation of blood. 4