

July-December MS in Pharmacology Final Examination-2018
Department of Physiology, Biochemistry and Pharmacology
Faculty of Veterinary Medicine
Chittagong Veterinary and Animal Sciences University
Course Title: Systemic Pharmacology; Course code: SPM-602
Total Marks: 40; Time: 2.00 hours

Answer any four (4) questions from the following:

- Q1. a. Classify purgatives with examples. Write down the dose, mode of action, indication, 5.0
contraindication of indirect irritant purgatives in cattle.
b. Define and classify antacid with examples? Write down the justification of use of 5.0
antacids in pets.
- Q2. a. Describe and classify drugs of respiratory system with examples. Write down the 5.0
dose, mode of action, indication, contraindication of salbutamol in dog.
b. Differentiate between bronchodilator and expectorant. Write down the dose, mode 5.0
of action, indication, contraindication of one of the expectorant in cat.
- Q3. a. Define and classify diuretics with examples. How thiazide and potassium sparing diuretics 5.0
acts?
b. Write down the dose, mode of action, indication and contraindication of modern diuretics. 5.0
- Q4. a. How will you differentiate alkaloids from glycosides? Write down the dose, mode of 5.0
action, indication, contraindication of heart tonic in dog.
b. How will you differentiate heparin from warfarin? What are the justifications of use of 5.0
anticoagulants in livestock?
- Q5. Write short notes on (any four): 2.5x 4= 10
a. STYPTICS b. Adrenaline c. Heart tonic d. Alkaloid and glycosides
e. Hexamine f. Sialic and anti-sialic

Chittagong Veterinary and Animal Sciences University
Department of Physiology, Biochemistry and Pharmacology
MS in Pharmacology July-December Semester Final Examination-2018
Course Title: Toxicology of Drugs and Chemical Residues
Course Code: TCD-602 (T)
Total Marks: 40.0; **Time:** 2 hours

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

1. a) What is the safety margin of a drug? How could you measure the safety margin of antimicrobial drug residue? 4.0
b) Point out the following things: 3.0
i) NOAEL and LOAEL, ii) MRL and MPL, iii) Biomonitoring and Biosensor
c) Tell about drug and pesticide residue. Why residue of veterinary drugs is much more significant on food safety concern? 3.0
2. a) How will you differentiate drug toxicity from chemical toxicity, multi drug resistance from multiple microbial resistances? 3.0
b) Why hormonal preparations are used in farm animal and meat industry? How hormone can be detected from the body? 4.0
c) Write down the potential adverse effects of aminoglycosides, sulphur drugs and ciprofloxacin used in animals. 3.0
3. a) Discuss about the term AWaRE of antibiotic. Mention two drugs which have been prohibited by FDA and why? 4.0
b) What are the recommendations of WHO to reduce the overuse and misuse of antimicrobials in food animals? 3.0
c) Explain the role and strategy of veterinarians, doctors and government to prevent the drug resistance. 3.0
4. a) Define and classify hazard. Write down the effects of indirect hazards. 2.0
b) What is the principle of rational use of drugs on a prescription? 3.0
c) Do you maintain withdrawal period and tolerance level of a drug? What are the draw-backs for proper maintenance of withdrawal period and tolerance level of using veterinary drugs and chemicals? 5.0
5. a) What is cytotoxic chemotherapy? Explain the principle and purpose of it. 3.0
b) How various chemotherapeutic agents can be worked in neoplastic disease? 5.0
c) Make a list of drugs which causes affect to the newborn animal. 2.0

Chittagong Veterinary and Animal Sciences University
Department of Physiology, Biochemistry and Pharmacology
MS in Pharmacology July-December Semester Final Examination-2018
Course Title: Chemotherapy of Parasitic Disease
Course Code: CPD-602
Total Marks: 40.0; **Time:** 2 hours

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

1. a) What are the drugs belonging to benzimidazole group? Comparatively justify the pharmacokinetic property and therapeutic use of mebendazole and thiabendazole use on nematode infection. 5.0
b) Write at least 10 drugs which could be useful for adult and larval stage of liver fluke in ruminants. Precisely explain the doses, mode of action and toxicity of nitroxylnil and triclabendazole use on cattle. 5.0
2. a) A 5 years old boxer (20Kg) brought to Teaching Training Pet Hospital with a history of hook worm infestation. How could you treat the patient with proper anthelmintic use? Write the name, dose, mode of action and side effects of it. 5.0
b) Ascariasis is very common in new born buffalo calves in our country. Comparatively justify the pharmacodynamic property, proper dose and adverse effects of levamisole and piperazine use on that case. 5.0
3. a) What do you know about shuttle program on Coccidia prevention in poultry? Tabulate the anti-coccidial preparations with their dose, routes, mode of action and contraindication. 5.0
b) While transporting the livestock during holy Eid-ul-Adha they were facing the problem of watery diarrhea. Sometimes they were affected with various protozoal infections. Now, What would be the right choose of drug/drugs to treat those livestock? Write its/their name(s) with appropriate pharmacology. 5.0
4. a) Popular anthelmintic, ivermectin is useful on mange affected sheep – Do you agree with the statemnet? If yes, how it works? Write some preparations with dosage, route of administration and risk of toxicosis in case of using on pets. 5.0
b) How does an anthelmintic can extend immunity for a certain period of time on an animal? List some pregnancy safe anthelmintics with trade preparation. 5.0
5. Short note (any four): (2.5 X 4) 10
 - a) Suramin
 - b) Bunamidine HCl
 - c) Niclosamide
 - d) Anthelmintic resistance
 - e) Integrated Parasitic Control

July-December MS in Pharmacology Final Examination-2018
Department of Physiology, Biochemistry and Pharmacology
Faculty of Veterinary Medicine
Chittagong Veterinary and Animal Sciences University
Course Title: Toxicology of Pesticides
Course code: TOP-602; Total Marks: 40; Time: 2.00 hours

Answer any four (4) questions from the following:

- Q1. a. Define and classify insecticides with examples. Write down the diagnosis and treatment of organo-phosphorus poisoning in dog. 5.0
b. Write down the factors involved with organo-chlorine poisoning. Write down the diagnosis and treatment of organo-chlorine poisoning in pets. 5.0
- Q2. a. Write down the mode of action, diagnosis and treatment of nicotine poisoning. 5.0
b. Write down the mode of action, diagnosis and treatment of rotenone poisoning in animal. 5.0
- Q3. a. Write down the clinical signs and treatment of sulfur and mercury poisoning in poultry. 5.0
b. Write down the diagnosis and treatment of amitraz and arsenic poisoning in livestock. 5.0
- Q4. a. What do you mean by OPIDN? Briefly describe the possible treatment of warfarin poisoning in cattle. 5.0
b. Write down the factors that affecting the toxicity of herbicides and fumigants. 5.0
- Q5. a. What are the effects of pesticides and herbicides on honey bees and fish. 5.0
b. How will you differentiate and treat the ANTU and red squill poisoning in rats? 5.0

Chittagong Veterinary and Animal Sciences University

Department of Physiology, Biochemistry & Pharmacology

MS (Pharmacology)

Final Examination-2018

July-December Semester

Sub: Pharmacy (PHA-602)

Total Marks: 40

Time: 2 hours

Answer the following questions (any four). Here question one and two compulsory.

4 x 10 = 40

1.
 - a) Define "Pharmacy". What are the responsibilities of a pharmacist?
 - b) What are the problems and reasons for irrational uses of drugs?
 - c) How one can improve relational drug prescribing?
2.
 - a) What is "Drug incompatibilities? Classify drug interactions.
 - b) State "Drug regulation roles and act".
 - c) Mention the role of WHO in drug regulations.
3.
 - a) What do you mean by "Community pharmacy". What are the main activities of a community pharmacist?
 - b) Differentiate complementary medicine from alternative medicine. Classify prescription.
 - c) Mention "Code of ethics in pharmacy profession".
4.
 - a) Define "Tablet, Capsule, Pill, Suspension, Suppository".
 - b) How a drug standardized?
 - c) Briefly state the process of syrup preparation and quality control of prepared syrup.
5.
 - a) What are the residual effect of drugs?
 - b) Sketch the process to evaluate residual effect of drug?
 - c) Write about common techniques for the preparation of drug.

MS in Physiology July-December Final Examination-2018
Department of Physiology, Biochemistry and Pharmacology
Chittagong Veterinary and Animal Sciences University
Course Title: Wild Life Physiology (Theory)
Course Code: WPH-602
Full Marks: 40
Time: 2 hours

Answer any 4 (Four) from the following questions

1.
 - a) How do cold blooded animals adapt in different temperature? 2
 - b) Enlist the physical factors of the environment and animal adaptation? 3
 - c) How do mammals regulate their body temperature? 2
 - d) What happens if a fish is exposed to a rapid change in water temperature? 3

2.
 - a) Define translocation. How the translocation impact on wild animal's physiology? 3
 - b) Describe the development of social behaviour with oxytocin hormone in wild animals? 4
 - c) Enumerate the Mechanisms of activation of maternal behaviour in mammals 3

3.
 - a) Do mammals reproduce sexually or asexually? How do placental mammals reproduce? 3
 - b) Do amphibians have a digestive system? How does the frog digestive system work? 2
 - c) Why do birds have air sacs in their lungs? 3
 - d) Is there any adaptation of the exocrine pancreas in wild animal? 2

4.
 - a) Enumerate the differences between carnivore and herbivore digestive systems? 4
 - b) Describe the effects of bird-feeding behaviour on their health status. 2
 - c) What animals hunt in pairs? Which predator has the highest success rate? 2
 - d) Describe the Adaptations in the reptilian excretory system for excreting insoluble urates. 2

5.
 - a) Exploring the role of gut bacteria for mammal's digestive process. 4
 - b) How do animals adapt to their habitat? 2
 - c) How does the respiratory system of birds achieve unidirectional airflow through the lungs? 2
 - d) Can birds breathe in and out at the same time? 2

Chittagong Veterinary and Animal Sciences University

Department of Physiology, Biochemistry & Pharmacology

MS (Pharmacology)

Final Examination-2018

July-December Semester

Sub: Endocrinology and Nutritional Pharmacology (ENP-602)

Total Marks: 40

Time: 2 hours

Answer the following questions (any four). Here question one and two compulsory.

4 x 10 = 40

1.
 - a) What do you mean by Neuroendocrine Complex?
 - b) Define "Hormone". Classify it according to source and chemical nature.
 - c) How do you differentiate between endocrinology and endocrine pharmacology?
 - d) What are the Patho physiologic consequences of preeclampsia in pregnancy?
2.
 - a) Mention the hormones related to reproduction with their functions.
 - b) Write down the biosynthesis of insulin and regulation of its secretion.
 - c) Define Amenorrhea. How do you evaluate it in lab and treat it?
 - d) Define Ectopic pregnancy? Write etiology and Treatment of Ectopic pregnancy.
3.
 - a) Briefly mention the "Rhodopsin Cycle".
 - b) What is the interrelationship among hormone, vitamin and mineral (with examples)
 - c) Which hormonal drugs are used to maintain and terminate pregnancy?
4.
 - a) Define "Estrus Synchronization". What are the roles of hormonal drugs in Estrus synchronization?
 - b) What is 'Hirsutism'. How do you prevent and treat it?
 - c) Why oxytocin is favorable instead of ergo martin treatment during labor?
 - d) What are the characteristics of post menarcheal bleeding.
5.
 - a) What is EDC? Calculate EDC?
 - b) Define Adolescent gynecology? Write down the specific problems of the adolescent.
 - c) From which organ most circulating testosterone derived in women?
 - d) A 25 year old woman gave a history of an abrupt onset of increased hair growth and amenorrhea. In addition, she complained significant acne and a marked decrease in her breast size. What is your diagnosis and treatment for her.

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MS in Physiology Final Examination- 2018

Semester: July- December

Course Title: **Digestive Physiology and Bioenergetics (Theory)**

Course Code: DPB-602

Total Marks: 40, Time: 2 hours

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

- 1 (a) How do Volatile Fatty Acids (VFAs) are produced from different types of carbohydrates in compound stomached animals? 4.0
- (b) Write down the physiological roles of hydrochloric acid (Hcl) in food digestion. Sketch the mechanism of Hcl secretion from parietal cells of stomach in dog? 3.0
- (c) What are the sources of succus entericus? Write down the composition and functions of succus entericus. 3.0
- 2 (a) Define absorption. Write down the sites and routes of absorption of different digested foodstuffs in GI tract. 4.0
- (b) Define 'mixed micelle' and 'chylomicron'. Write down the mechanism of formation and secretion of chylomicrons by intestinal mucosal cells. 3.0
- (c) How do the amino acids enter the Krebs cycle? What are the glucogenic and ketogenic amino acids? What are the enzymes involved to complete the urea cycle in animals body? 3.0
- 3 (a) How is protein digestion occurred in simple stomached animals? 4.0
- (b) Write down the mechanism of Na^+ , Cl^- and K^+ absorption through intestinal epithelium. 3.0
- (c) Enumerate the fate of ammonia in ruminants and poultry separately. 3.0
- 4 (a) Briefly discuss about the water absorption process from GI tract to blood in dog. Write about the pathophysiology of diarrhea. 4.0
- (b) Define different types of movements available in small intestine. Write down the nervous and hormonal control of motility of stomach. 3.0
- (c) Differentiate between glutamate and glutamine. List the catabolic pathway for protein metabolism in animal body. 3.0
- 5 (a) Enlist the different types of mechanical factors of digestion of ruminant animals. Briefly discuss any three of them. 4.0
- (b) How is gastic juice secretion regulated in animal body? 3.0
- (c) What do you mean by central dogma? Mention the enzymes involved in transcription and reverse transcription procedure. 3.0

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MS in Physiology Final Examination 2018

Semester: July-December

Course Title: Concepts of Animal Welfare (Theory)

Course Code: CAW-602

Total marks: 40, Time: 2 hours

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

1. a. What are the differences between animal welfare and animal right? Name the five freedoms of animal welfare. 3
b. How do you assess welfare of farm animal? List the welfare indicators of normal animals. 3
c. Discuss the role of veterinarians to promote animal welfare in Bangladesh. 4
2. a. What are the methods of dog population control? How will you control free roaming dog in Bangladesh? 5
b. What do you know about HARs? "HAR is related with welfare, production and economy of a dairy farmer"-justify the statement. 5
3. a. Why cattle are called sentient animals? Briefly discuss the concepts of animal welfare development in Bangladesh. 5
b. What are the OIE guidelines of animal welfare? Discuss the guidelines for the transport of animals. 5
4. a. What are the methods of slaughter? Discuss the animal welfare issues during pre slaughter handling and slaughter in Bangladesh. 5
b. What is 3 Rs? List major welfare issues in animal experimentation. 5
5. a. What are the common violations of animal welfare in Bangladesh? List the suggestive ways of improving animal welfare in Bangladesh. 5
b. Define ethics and legislation. Discuss four views about humanity's duties to animals. 5

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MS in Physiology Final Examination 2018

Semester: July-December

Course Title: Integration Physiology (Theory)

Course Code: IPH-602

Total marks: 40, Time: 2 hours

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

1. a. Enlist the special features of involuntary muscle. Write down the mechanism of skeletal muscle contraction in buffalo. 4
b. What is calcium pump? How is calcium help in muscle contraction? 3
c. Write a short note on All or none law and muscle fatigue. 3
2. a. Why does synapse conduct impulse unidirectional? How is nervous system maintain homeostasis in cattle? 3
b. What are component of reflex arc? Draw and label a disynaptic reflex. 4
c. Write down the properties and functions of synapse. 3
3. a. How taste signal is transmitted to the brain? Explain taste differentiation. 5
b. Enlist the different layers of eye. Describe the role of aqueous humor and vitreous humor in visualization. Differentiate between rod and cone cells. 5
4. a. Write down the synthesis, function, mechanism of release and fate of any one neurotransmitter. 5
b. What are the salient features of autonomic nervous system? Differentiate between sympathetic and parasympathetic nervous system. 5
5. a. Write down the functions of neuron. How does nervous system propagate action potential? 5
b. Write down the general and specific functions of skin. Discuss the mechanism of hearing. 5

Chittagong Veterinary and Animal Sciences University
MS in Physiology July-December Semester Final Examination 2018
Department of Physiology, Biochemistry and Pharmacology
Course Title: Excretory Physiology and Acid-Base Balance
Course Code: EPA-602
Full Marks: 40
Time: 2 hours

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

1. a. How do you quantify kidney function using clearance method? Please explain briefly. 5
- b. Please explain the hormonal control of tubular reabsorption. 5
2. a. How does the counter-current exchange in the Vasa Recta preserve hyperosmolarity of the renal medulla. 5
- b. Please outline the osmoreceptor-ADH feedback system. 5
3. a. What is respiration? How does the peripheral chemoreceptor system control the respiratory activity? 5
- b. How will you give oxygen therapy in different types of hypoxia? 5
4. a. What is skin? How does skin could act as an excretory organ of the body? 5
- b. What is your idea on acid-base balance in sweat? 5
5. a. What are the principle buffers in the body to maintain acid-base balance? 5
- b. Which are the systems in the body help to maintain acid-base balance? Out of them which one seems to you most important and why? 5