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

MS in Physiology Final Examination 2017

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 relationships between behavior and welfare of animal? Discuss the role of veterinarians to promote animal welfare. 5
   b. How do you assess welfare of farm animal? List the welfare indicators of normal animals. 5

2. a. How can you control free-roaming dog in Bangladesh? 5
   b. What do you know about HARs? "HAR is related with production and economy of a dairy farmer"-justify the statement. 5

3. a. Enlist the five principles of animal welfare. Briefly discuss the concepts of development of animal welfare in Bangladesh. 5
   b. What are the OIE guidelines to develop animal welfare? Discuss any one of them. 5

4. a. What are the religious views on animal? Discuss animal welfare with respect to religious perspectives. 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. Discuss four views about humanity's duties to animals. 5

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

MS in Physiology Final Examination 2017

Semester: July-December

Course Title: Excretory Physiology and Acid-base balance (Theory)

Course Code: EPA-602

Total marks: 40, Time: 2 hours

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

1. a. List the excretory organs of cattle. How is urine volume regulated in dog? 5
   b. What are the special features of Bowman's capsule? Discuss the tubular reabsorption in horse. 5

2. a. How is O_2 transported to the cell? Enlist the layers exist in the pulmonary membrane. 5
   b. What are the locations of respiratory centre? Briefly discuss about reflex mechanism of respiration. 5

3. a. What are the physiological differences between avian and mammalian respiratory system? Write the significance of respiratory quotient. 5
   b. What is tidal volume? Discuss the mechanism of inspiration in horse. 5

4. a. Discuss the role of lung in maintaining acid-base balance. 5
   b. List the buffer system in animal body. How is buffer maintain acid-base balance? 5

5. a. List the layers and function of skin in cow. How does sweat and panting help in thermoregulation? 5
   b. What is GFR? Write a short note on micturition in cow. 5

MS in Physiology July-December Final Examination-2017
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 Ectotherms control their body temperature when they get cold?	**2**
	b)	Enlist the physical factors of the environment and animal adaptation?	**3**
	c)	How do birds regulate their body temperature?	**2**
	d)	What happens if a fish is exposed to a rapid change in water temperature?	**3**
2.	a)	How does a prey protect themselves from predators?	**3**
	b)	Why do predators have adaptations?	**2**
	c)	Enumerate the Mechanisms of activation of maternal behaviour in mammals.	**3**
	d)	How does fish see underwater? How do fish swim with their eyes open?	**2**
3.	a)	How does the snake breathe? Do all reptiles have lungs?	**3**
	b)	How reptiles and amphibians are the same?	**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)	What do you mean by "Physiology of intermittent feeding?" Integrating responses of vertebrates to nutritional deficit and excess.	**4**
	b)	Describe the effects of bird-feeding activities on the health of wild birds.	**2**
	c)	Which technique lions follow during hunting?	**2**
	d)	Describe the Adaptations in the reptilian excretory system for excreting insoluble urates.	**2**
5.	a)	Write down the Contributions of Microbes in Vertebrate Gastrointestinal Tract to Production and Conservation of Nutrients.	**4**
	b)	How do amphibians digest their food?	**2**
	c)	What is a gastrointestinal (GI) bleed?	**2**
	d)	How does food travel through the digestive system?	**2**

Chittagong Veterinary and Animal Sciences University
Department of Physiology, Biochemistry and Pharmacology
MS in Physiology Final Examination 2017
Semester: July-December
Course Title: Laboratory Techniques in Physiology (Theory)
Course Code: LTP-602
Total marks: 40, Time: 3 hours

1. Perform the following experiments and write down their principle with materials and results? 25
    a. Routine examination (R/E) of blood
    b. Routine examination (R/E) of urine
    c. Collection of rumen fluid
    d. Determination of FSH hormone

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

MS in Physiology Final Examination 2017

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 voluntary muscle. Write down the mechanism of skeletal muscle contraction in buffalo. 5
   b. What is calcium pump? How is calcium help in muscle contraction? 5

2. a. What is neuronal network? How is nervous system maintain homeostasis in cattle? 5
   b. What are component of reflex arc? Draw and label a disynaptic reflex. 5

3. a. Is there any difference of hearing frequency between cattle and human? Discuss the hearing mechanism of horse. 5
   b. Enlist the layers of retina. Write a short note on rhodopsin cycle. 5

4. a. How is neurotransmitter release from sypanse? Write the properties of synapse. 5
   b. What are the salient features of autonomic nervous system? Differentiate between sympathetic and parasympathetic nervous system. 5

5. a. Classify vision of cattle. How is gustatory signal pass into CNS? 5
   b. Differentiate among skeletal, smooth and cardiac muscle in mare. 5

Chittagong Veterinary and Animal Sciences University
Department of Physiology, Biochemistry and Pharmacology
MS in Physiology Final Examination 2017
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 any FOUR (4) questions).

1. a. List the mechanical factors of digestion. What are the differences between avian and ruminant digestive system ? 5
   b. State the role of hydrochloric acid in food digestion. Sketch the mechanism of hydrochloric acid secretion from parietal cells of stomach. 5

2. a. Enlist the different types of enzymes in pancreatic and gastric juices with their function. State the role of pancreatic HCO_3^- in duodenum. 5
   b. How rumen microbes is produced VFA from cellulose? Discuss lipid digestion in dog. 5

3. a. What are the absorbable from of CHO, protein and lipid? Sketch the mechanism of glucose absorption in cow. 5
   b. What is lactose intolerance? Write the digestion of CHO in a simple stomach animal and give the differences from that of ruminant. 5

4. a. What is villus pump? Write the mechanism of electrolyte absorption in dog. 5
   b. Write down the composition, function and regulation of gastric juice in cow. 5

5. a. What are the physiological role of crop, mechanical stomach, glandular stomach and ceca in chicken. 5
   b. What is peristalsis? Write down the nervous and hormonal control of motility of stomach? 5

Chittagong Veterinary and Animal Sciences University
Department of Physiology, Biochemistry and Pharmacology
MS in Pharmacology July-December Semester Final Examination-2017
Course Title: Chemotherapy of Parasitic Diseases
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) Classify antiparasitic drugs with example. Diagrammatically show the general mode of action of anthelmintics. 4.0
   b) What are the clinical judgments of using anthelmintics in veterinary practices? 2.0
   c) Justify the use of triclabendazole and oxiclozanide against fasciola infection on ruminants. 4.0

2. a) Classify the drugs of Benzimidazole group. Comparatively discuss about the pharmacology of albendazole and fenbendazole use in livestock. 4.0
   b) A puppy brought to a veterinarian with a problem of pot belly appearance due to parasitic infection. Which drug would you prefer for the animal and how the drug works? Write its name with trade and proper dose. 4.0
   c) Mention some pregnancy safe anthelmintics with their trade preparations. 2.0

3. a) When do you suggest using anticoccidial drugs? Outline the therapeutic approach in controlling and treating coccidiosis in poultry of Bangladesh. 4.0
   b) Compose proper prescriptions of drugs for anaplasmosis, babesiosis, theileriosis and trypanosomiasis. 4.0
   c) A goat facing a problem of diarrheatic feces where found rice gruel appearing substances. How could you handle the patient using the appropriate drug preparation? 2.0

4. a) "Ivermactin acts as an antibiotic"- do you agree with this statement? Clarify your opinion. 2.0
   b) Write down the detail pharmacology and toxicity about ivermactin use on different animal. 4.0
   c) How do piperazine and levamisole work against nematodes? Illustrate the indications, doses, pharmacokinetics, merits and demerits of levamisole. 4.0

5. Short note (any four): (2.5 X 4) 10
   a) Praziquantel
   b) Metronidazole
   c) Anthelmintic resistance
   d) OP insecticide poisoning
   e) Parasitic control strategy

July-December MS in Pharmacology Final Examination-2017
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. Differentiate alkaloid from glycosides. Write down the pathway of adrenaline synthesis 5.0

b. Differentiate purgatives from laxatives? Write down the justification of use of emetics and anti-emetics. 5.0

Q2. a. Differentiate bronchodilators from expectorants. Write down the dose, mode of action, indication, contraindication of sulbutamol. 5.0

b. Differentiate heart tonic from heart stimulants. Write down the mode of action of heart tonic. 5.0

Q3. a. List the drugs acting on urinary system. Write down the mode of action, dose, indication and contraindication of furosemide. 5.0

b. How will you differentiate high efficacy diuretics from low efficacy? Write down the use of urinary acidifier, antiseptics and alkalizer. 5.0

Q4. a. Differentiate local anaesthetic from general anaesthetic? Write down the dose, mode of action, indication, contraindication of ketamine. 5.0

b. Write down the stage of anaesthesia. 5.0

Q5. Write short notes on (any four): 2.5x 4 10

a. STYPTICS b. Antizymotics c. Barbiturates d. Anticoagulants e. Thiazide diuretics f. Purgatives

July-December MS in Pharmacology Final Examination-2017
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. Differentiate organo-phosphorus poisoning from organo-carbamate poisoning.	5.0
	b. Write down the clinical signs, diagnosis and line of treatment of DDT poisoning.	5.0
Q2.	a. Write down the factors related to Organochlorine poisoning in livestock.	5.0
	b. Write down the mode of action, diagnosis and treatment of nicotine poisoning.	5.0
Q3.	a. Write down the common public health hazard caused by pesticides.	5.0
	b. How will you diagnose and treat acute arsenic poisoning.	5.0
Q4.	a. Briefly describe the effects of pesticides and herbicides on honey bees and fish.	5.0
	b. Write down the function and mechanisms of ideal fumigants in poultry?	5.0
Q5.	Write down the notes on (any four): 4x2.5	10

a. Rotenone b. Strychnine c. ANTU d. Sulfer poisoning e. Carbon dioxide f. Zinc phosphide

Chittagong Veterinary and Animal Sciences University
Department of Physiology, Biochemistry and Pharmacology
MS in Pharmacology July-December Semester Final Examination-2017
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) Explain about drug and chemical residue. Why residue of drugs is significant on food safety concern? 4.0
   b) Distinguish drug toxicity from food toxicity. How would you assess human health risk issues due to residues? 4.0
   c) Outline the recommendations of WHO to reduce the overuse and misuse of antimicrobials in food animals. 2.0

2. a) Illustrate the margin of exposure. How could you evaluate the exposure margin of antimicrobial residues? 2.0
   b) Design the detection protocol of antimicrobial residue from a live broiler market sample. 4.0
   c) Demonstrate on legislation, act and ordinance. Execute the legislations regarding veterinary drug residues in foodstuff of animal origin. 4.0

3. a) What is hazard? Differentiate between short term and long term hazard. 3.0
   b) Define biosensor. How biosensor and mechanical immunosensor works to detect chemicals entering into the food chain and the environment? 3.0
   c) Compose the principle of cytotoxic chemotherapy. Enlist the best choice of drugs for this therapy. 4.0

4. a) Interpret about tolerance and withdrawal time. Show the limitation for maintaining withdrawal time and tolerance level of drugs and chemicals. 3.0
   b) Why oxytetracycline should not be used in milking animal and laying poultry? 2.0
   c) Compute a table about the contraindication and potential adverse effects of commonly used antibiotics, sulphonamides and steroids in livestock. 5.0

5. a) Why Chloramphenicol and Nitrofurantoin are banned? Make an alternate safe choose and justify your suggestion. 3.0
   b) Enlist some nephrotoxic and heaptotoxic agents those create detrimental effects to livestock. 2.0
   c) Short note (any two): 5.0
   i) Genotoxic ii) Use and hazard of radioisotopes iii) NOAEL and LOAEL

Chittagong Veterinary and Animal Sciences University

Department of Physiology, Biochemistry & Pharmacology

MS (Pharmacology)

Final Examination-2017

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 is the production output from the cow?
   b) What factors that will determines milk output is a dairy cow?
   c) Briefly explain the physiological mechanisms involved for the use of the hormones?
   d) What would lead you to suspect the cow might be exhibiting sub estrus?
2. a) What hormone would you use?
   b) What are the critical times?
   c) How can poor estrus detection be differentiated from sub estrus?
   d) How might poor estrus detection be improved in the short term?
3. a) Why might a cow be inseminated in dioestrus?
   b) How will the assay identify the error?
   c) Why should poor fertility reduce the profitability of the herd?
   d) In a seasonally calving herd, why should the heifers be served a month before the cows.
4. a) What are the problems associated with cows having twins?
   b) Other than abortion, what will be the consequences if it in not treated?
   c) Based on your experience, why should we be concerned about dystocia?
   d) How does it reduce reproductive performance?
5. a) How does it reduce other aspects of productivity?
   b) Why might HCG injections improve libido?
   c) How does conditioning depress libido?
   d) A bull with good libido & able to mount a inoestrus does not protrude its penis. What re the causes?

Chittagong Veterinary and Animal Sciences University

Department of Physiology, Biochemistry & Pharmacology

MS (Pharmacology)

Final Examination-2017

July-December Semester

Sub: Pharmacy (VPHA-618)

Total Marks: 40 Time: 2 hours

Answer the following questions (any four). **4 x 10 = 40**

1. a) Elaborate the following terms:
   i) CGMP; ii) PPIC; iii) DAR; iv)WFI; v) PMD; vi) PQC; vii) PD; viii) MDI; ix) ISO; x) API;
   b) How many dosage forms are used in pharmaceutical industry discuss them.
   c) What is capsule? Write down the size of capsule? How controle the quality of capsule.
2. a) How many types of water used in pharmaceutical industry? Describe them.
   b) What is contamination? Describe the sources of contamination?
   c) What is process validation?
3. a) What is GLP? Discuss the benefits & essential elements of GLP?
   b) Write down the process flow diagram of tablet?
4. a) How can you set up a pharmaceutical factory / premix factory? Describe them.
   b) Write down the difference between suspension & emulsion?
   c) What is coating? Write down the types of coating?
5. a) What is pharmaceutical pilot plant? Describe its importance?
   b) Discuss the criteria for quality of any drug / product?
   c) What is Q.A? Write down the activities of Q.A?
6. a) Define & classify inventories / store? Discuss them.
   b) How can you control raw materials?
   c) What is market complaint of a product? How can overcome these or response of market complaint?