Chittagong Veterinary and Animal Sciences University

DVM 3rd Year 1st Semester Final Examination, 2010

Subject: Parasitology (Arthropods) (Theory)

Course Code: PAR– 301

Full Marks – 55, Time: 3.0 Hours

(Figures in the right margin indicate full marks. Answer any **THREE** questions from SECTION A and any **FOUR** questions from **SECTION B**). Use separate answer scripts for each section.)

Section-A

1. a) Define Veterinary entomology. 2
   b) Outline briefly the classification of veterinary important arthropods 3
   c) Give a comparative account of class Insecta and Arachnida 4
2. a) How will you differentiate the following? 3x3 = 9
   i. Soft tick from hard tick
   ii. Psoroptic mite from Chorioptic mite
   iii. Sucking lice from biting lice
3. a) Write down the scientific names of the vectors transmitting the following diseases: 0.5x10= 5
   i. Cerebral malaria
   ii. Dengue fever
   iii. Canine heartworm infection
   iv. Anthrax
   v. Hump sore
   vi. Elephantiasis
   vii. Plague
   viii. Babesiosis
   ix. PKADL
   x. African swine fever
   b) Describe the biology and pathogenic significance of *Tabanus sp.* 4
4. Write short notes on (any **THREE**):- 3x3 = 9
   i. Metamorphosis
   ii. Sheep scab
   iii. Oriental rat flea
   iv. Linguatula serrata
   v. Tick paralysis

Section-B

5. a) Briefly describe the beneficial and harmful effects of arthropods 3
   b) Describe the following terms (any **FOUR**):- 4
   i. Diapause
   ii. Flea hotspots
   iii. Screw worm
   iv. Exuvia
   v. Ecdysis
6. Define and classify myiasis with examples. How will you control them? 7
7. a) List the diseases transmitted by tse tse fly in animals 1
   b) How will you recognize the following (**any TWO**):- 3x2 = 6
   i. *Rhipicephalus evertsi*
   ii. *Trichodectes canis*
   iii. *Boophilus microplus*
   iv. *Argus persicus*
8. a) Enlist the cattle lice and ticks available in Bangladesh 3
   b) Briefly describe the possible non-chemotherapeutic measures of tick control. 4
9. a) Mention the behavioural and life cycle differences of *Anopheles sp.* and *Culex sp.* 3
   b) Write down the scientific names of:- 0.5x8 = 4
   i. One host tick of cattle
   ii. Horse throat bot fly
   iii. Long nosed cattle louse
   iv. Red mite of poultry
   v. Sheep ked
   vi. Sheep nasal bot
   vii. Dog flea
   viii. Stable fly

Chittagong Veterinary and Animal Sciences University

DVM 3rd Year 1st Semester Final Examination, 2010

Subject Title: Regulatory and Reproductive Physiology (Theory)

Course Code: RRP– 301

Full Marks – 55, Time: 3.0 Hours

(Figures in the right margin indicate full marks. Answer any **THREE** questions from each section of which question number **FIVE** is compulsory. Use separate answer scripts for each section.)

Section-A

1. a. Define neuron. How does nervous system propagate action potentials? Briefly describe. 3
   b. What is neuro-glandular junction? How does transmission of signal occur across the chemical synapse? 3
   c. Classify neurotransmitters according to their chemical structures. Give spotlight on acetylcholine. 3

2. a. Define and classify hormones with examples. 3
   b. State the mode of actions of steroid hormones. 3
   c. State servo-regulation of hormone secretion with examples. 3

3. a. Describe the relationship of vitamin-D, parathormone and calcium in maintaining homeostasis of the body. 3
   b. What is fight and flight response? Describe the role of catecholamine in this response. 3
   c. Define tropic hormone. List the name of those hormones with functions, at least two of each. 3

4. a. Mention the role of ADH on kidney and vascular system. 2
   b. What are the hormones derived from cholesterol? Briefly describe the synthesis process of progesterone, cortisol and aldosterone in mammalian body. 4
   c. Briefly describe the relationship between endocrine and nervous systems. 3

Section-B

5. a. Define gamete and gonad. 2
   b. What are the features of a sperm? 2
   c. Trace the path of a sperm from the testis to its release through the penis. 2
   d. Where is the seminal fluid produced and what purpose does it serve? 2
   e. What is the difference between internal and external fertilization? Give examples. 2

6. a. List primary hormones of reproduction. 3
   b. Discuss hypothalamo-hypophyseal-utero-ovarian relations during an oestrous cycle in cow. 6

7. a. Show the age of puberty, length of oestrous cycle, duration of oestrus, length of pregnancy in cow, goat, ewe, mare and buffalo in a tabular form. 5
   b. State the role of progesterone in reproduction. 2
   c. What is superovulation? How could superovulation be performed? 2

8. a. What is parturition? State the role of foetus in initiation of parturition. 5
   b. What is lactation? Discuss let-down of milk in cow. 4

Chittagong Veterinary and Animal Sciences University

DVM 3rd Year 1st Semester Final Examination, 2010

Subject Title: General Pharmacology (Theory)

Course Code: GPH– 301

Full Marks – 70; Time: 3.0 Hours

(Figures in the right margin indicate full marks. Answer any **THREE** questions from each section of which question number **One** and **FIVE** are compulsory. Use separate answer scripts for each section.)

Section-A

1. a. Explain the term "Pharmacokinetics" and "Pharmacodynamics". 4
   b. Write down the sources of drugs with active principles. 3
   c. What is prescription? Mention the parts of an ideal prescription. 4

2. a. Define and classify expectorant and antitussive drugs with examples. 4
   b. Write down the dose, mode of action, indication and contraindication of sulbutamol in cattle. 4
   c. How does an expectorant differ from mucolytic? Write down the name of four bronchodilators that are being used in veterinary practice. 4

3. a. Define laxatives and purgatives. Classify purgatives with examples. 4
   b. Briefly describe the mode of action of the bulk purgatives. 4
   c. Write down the treatment of bloat. 4

4. a. Define and classify diuretics with examples. 4
   b. Write down the mode of action and use of loop diuretics. 4
   c. Name the urinary acidifiers and alkalizers. Give their indications in veterinary practice. 4

Section-B

5. a. Differentiate heart tonic from heart stimulants. 3
   b. Write down the dose, mode of action, indication and contraindication of digitalis in cattle. 5
   c. Briefly describe the heart depressant. 3

6. a. Classify barbiturates with examples. 3
   b. Write down the dose, mode of action, indication and contraindication of lidocaine in dog. 5
   c. What do you mean by surgical anesthesia? Write down the characteristics of an ideal anesthetic. 4

7. a. Define and classify autacoids with examples. How will you differentiate autacoids from hormones? 4
   b. Write down the pharmacological action, mode of action, therapeutic uses and contraindication of the H1 receptor blocker. 4
   c. Define antihistaminic and give their classification and mechanism of histamine release. 4

8. Write down short-notes on any three of the followings: 4×3= 12

   a. Astringents
   b. Pharmacopeias
   c. Prostaglandins
   d. Carminative
   e. Bioavailability of drugs

Chittagong Veterinary and Animal Sciences University

DVM 3rd Year 1st Semester Final Examination, 2010
Subject: Systemic and Avian Pathology (Theory)
Course Code: SAP– 301
Full Marks – 70, Time: 3 Hours

(Figures in the right margin indicate full marks. Answer any **5 (FIVE) questions** from each section. Use separate answer script for each section.)

Section-A

1. (a) Write down the causes and gross lesions of rickets. 3
   (b) Write short note on "big head disease" 3
   (c) Name five pathological conditions found in joints. 1

2. (a) Define epistaxis & bronchiectasis. 2
   (b) Write down the pathogenesis of pneumonia. 5

3. (a) What do you mean by "Tetralogy of Fallot" & "Persistent right aortic arch"? 3
   (b) Write down the causes of myocarditis and endocarditis. 2
   (c) What is hardware disease? How it develop in a cow? 2

4. (a) Name four parasitic diseases of poultry. 1
   (b) Write down the post mortem findings of the following diseases (**any THREE**) 3x2=6
   i) Newcastle disease ii) Fowl Cholera iii) Pullorum Disease and iv) Avian influenza

5. (a) Name the parasites causing heamorrhagic gastritis & hemorrhagic enteritis in cattle. 2
   (b) Define ascites, gingivitis, stomatitis and sialoadenitis. 2
   (c) Write short note on "choke" 3

6. (a) What is cirrhosis? Describe the causes and types of cirrhosis. 5
   (b) Write down the microscopic features of toxic hepatitis. 2

Section-B

7. (a) Name five immunosuppressive and five vertically transmitted diseases of poultry. 2
   (b) Write down the pathogenesis and pathology of coccidiosis in chicken. 5

8. (a) Mention the pathological conditions found in glomerulus. Write short note on membranous glomerulonephritis. 5
   (b) Write down the microscopic lesions of amyloidosis in kidney. 2

9. (a) List the immunosuppressive diseases of poultry. 1
   (b) Write down the pathogenesis & pathology of Infections Bursal Diseases. 6

10. (a) Enumerate the diseases of skin. 4
    (b) Define alopecia, urticaria, eczema. 3

11. (a) How would you differentiate myoglobinuria, hemoglobinurea & hematuria. 3
    (b) Discuss the pathologenesis and pathology of white muscle disease in calf 4

12. Enlist the vitamin deficiency diseases in chicken. Write briefly the pathogenesis, pathology and preventive measures of nutritional roup in chicks. 7

Chittagong Veterinary and Animal Sciences University

DVM 3rd Year 1st Semester Final Examination, 2010

Subject: Poultry Production (Layer and Broiler) (Theory)

Course Code: PPR– 301

Full Marks – 70, Time: 3.0 Hours

(Figures in the right margin indicate full marks. Answer any **THREE** questions from each section of which question number **ONE** and question number **FIVE** are compulsory. Use separate answer scripts for each section.)

Section-A

1 (a) Define Poultry. Classify chickens on the basis of origin and utility. 3
(b) What are the major constraints of poultry production in Bangladesh? 3
(c) Briefly describe the management of commercial broiler. 5

2. (a) What do you mean by incubation? Briefly describe the requirements of successful incubation of eggs. 5
(b) State the selection, care and storage of hatching eggs. 7

3. (a) Describe the factors influencing the total egg production in a flock. 5
(b) What are the main causes of sudden dropping of egg production? 4
(c) List the factors responsible for variation of egg size. 3

4. (a) Define fertility and hatchability. 2
(b) Briefly discuss the factors affecting the fertility of eggs. 6
(c) What are points that needed to be considered before selection of a good quality layer? 4

Section-B

5. (a) What do you mean by "processing of broiler"? 1
(b) Briefly describe the steps involved in broiler processing. 6
(c) During broiler processing which two steps do you think most important and why? 4

6. (a) Write down the management practices of an egg-laying flock for high productivity. 6
(b) State the importance of vaccination of modern chickens under intensive farming system. 3
(c) What are the ill-effects of medication in a laying flock? 3

7. (a) Draw and label the reproductive system of a laying hen. Indicate the contribution of each part to egg formation. 8
(b) What are abnormal eggs? Explain the underlying causes of formation of two types of abnormal eggs. 4

8. (a) Define the following terms: 8
Poultry; Strain; Hybrid; Cockerel; Broiler; Capon; Plumage; and Lopped comb.
(b) Name the breeding systems considered in poultry. Which systems is most appropriate for broiler parent stock? Justify your answer. 4

Chittagong Veterinary and Animal Sciences University

DVM 3rd Year 1st Semester Final Examination, 2010

Subject: Virology (Theory)

Course Code: VIR– 301

Full Marks – 70, Time: 3 Hours

(Figures in the right margin indicate full marks. Answer 3 **(THREE) questions** from each section of which **Question No. 1 and 5 are compulsory**. Use separate answer script for each section.)

Section-A

1. a) Define a virus. What are the reasons that one can argue a virus to be either living or non-living? 2
   b) Describe the structural components of viruses with their function. 5
   c) Describe 2, 3 and 5 fold axis/symmetry of an icosahedral capsid of a virus with diagram. 4

2. a) Show in a diagram the replication cycle of virus. 5
   b) Describe one-step growth curve of viral infection. What do you mean by "Iceberg concept of infection"? – Describe in a tabular form. 4
   c) Describe with a diagram the sequence of events that take place after virus invasion of the body. 3

3. Write down the laboratory diagnostic procedures of the following diseases: 4x3=12
   a) Newcastle disease; b) Marek's disease; c) Peste-des-petits ruminants and d) Bovine spongiform encephalopathy

4. a) Write down the properties of Mycoplasma, Rickettsia and Chlamydophila. 4
   b) Show the different parts of bacteriophage in a diagram and write down what do you mean by the lytic and lysogenic cycles of bacteriophages. 5
   c) Mention the control measures you could take to avoid bovine viral diarrhea virus to enter into a dairy herd. 3

Section-B

5. a) Differentiate street rabies virus from fixed rabies virus. 2
   b) How will you confirm a case of rabies in laboratory? Design a good strategy to control rabies in Bangladesh. 5
   c) What are the serotypes of Foot and Mouth Disease virus? Why Foot and Mouth Disease virus is difficult to control by vaccination? 4

6. a) How do viruses spread in an animal body? 5
   b) Describe in brief different types of persistent virus infections seen in animals. 5
   c) How primary viremia differs from secondary viremia? 2

7. a) What are the samples you will collect for the following disease conditions: 4
   i) Eggdrop syndrome'1976; ii) Infectious laryngotracheitis; iii) Infectious canine hepatitis and iv) Foot and Mouth Disease virus
   b) Name the viruses belonging to the family Herpesviridae that have veterinary importance. 4
   c) Write down the cultural properties of the following viruses: 2x2=4
   i) Duck plague virus; ii) Peste-des-petits ruminants virus

8. a) Give the properties of the viruses belonging to the family Paramyxoviridae. 4
   b) Enumerate the functions of different proteins produced by the viruses of the family Paramyxoviridae. 4
   c) How low pathogenicity avian influenza viruses differ from high pathogenicity avian influenza viruses? 4

Chittagong Veterinary and Animal Sciences University

DVM 3rd Year 1st Semester Final Examination, 2010

Subject: Animal Nutrition (Theory)

Course Code: ANT– 301

Full Marks – 55, Time: 3 Hours

(Figures in the right margin indicate full marks. Answer any 3 **(THREE) questions** from each section of which question number **1 (One)** is compulsory. Use separate answer script for each section)

Section-A

1. (a) Define nutrition. Who is the founder of the science of nutrition and why? 4
   (b) Name the disciplines involved in nutrition studies and mention their specific contributions. 4
   (c) Compare the nutritional composition of plants and animals. 2

2. (a) Define and classify polysaccharides with examples. 2
   (b) Outline the pathways of microbial fermentation of carbohydrate in rumen and the digestion procedure of CHO in the small intestine. 3
   (c) State the utilization procedure of acetate, propionate and butyrate in ruminants. 4

3. (a) What do you mean by organic and energy giving nutrients? 3
   (b) Give the physiological functions of organic nutrients in animal body. 6

4. (a) Define essential and limiting amino acids. 2
   (b) "Essential amino acids are not dietary essential but metabolically essential for ruminants"-justify with example. 4
   (c) Discuss the mode of NPN utilization in ruminants. 3

Section-B

5. (a) List the dietary essential vitamins for ruminants. 2
   (b) Give the physiological functions and deficiency symptoms of vitamin A, D & E in cattle. 5
   (c) Classify vitamin with example. 2

6. (a) What is the co-efficient of digestibility? 2
   (b) Discuss the estimation procedure of digestibility by direct method in large animals. 5
   (c) List the important feeding standards for cattle. 2

7. (a) What do you mean by true protein, crude protein and non-protein nitrogenous substances? 2
   (b) Discuss the metabolism process of protein in monogastric and polygastric animals. 7

8. Write short notes on: 3X3=9
   (a) Local feed stuffs.
   (b) Total digestible organic nutrients (TDN).
   (c) Role of lipids in ruminants.

Chittagong Veterinary and Animal Sciences University

DVM 3rd Year 1st Semester Final Examination, 2010

Subject: Animal Genetics (Theory)

Course Code: AGN– 301

Full Marks – 70, Time: 3.0 Hours

(Figures in the right margin indicate full marks. Answer any **THREE** questions from each section of which question no. **ONE** (1) and question no. **FIVE (5)** are compulsory. Use separate answer scripts for each section.)

Section-A

1. (a) Define allele and one-factor cross. 2.0
   (b) Write down the chronological development of genetics. 6.0
   (c) What are the considerations should be kept in mind before choosing an organism for genetical experiment? 3.0

2. (a) Distinguish between dominant gene action and co-dominant gene action. 4.0
   (b) Write down the characteristics of multiple alleles. 4.0
   (c) Explain lethal gene action. 4.0

3. (a) Define exon and enhancer. 2.0
   (b) Write down the biochemical reactions of DNA replication. How do DNA replication is controlled during cell cycle? 6.0
   (c) What are the characteristics of genetic materials? Mention the "Chargaff's rules". 4.0

4. (a) Draw and label the "Watson-Crick model" of DNA structure. 6.0
   (b) List the enzymes and proteins involved in DNA replication of eukaryotes. 4.0
   (c) What is Central dogma? 2.0

Section-B

5. (a) List the different types of RNA. 3.0
   (b) Define translation and transcription. 3.0
   (c) List different methods for gene mapping. 3.0
   (d) Define gene cloning. 2.0

6. (a) Define gene, homoetic genes and modifier genes. 3.0
   (b) Discuss the Mendel's contribution to genetics. 7.0
   (c) What will be the possible blood groups in the progeny resulting from "O" and "AB" blood group parents? 2.0

7. (a) What is the rate of recombination? Mention its importance in genetics. 3.0
   (b) Describe the sex pili mediated genetical recombination of bacteria. 5.0
   (c) List ten important genetic disorders with their causes and species spectrum. 4.0

8. Write short notes any four (4) of the following 3 x 4= 12.0
   i) Crossing over and its significance
   ii) Production of transgenic animal
   iii) Environmental effect on gene expression
   iv) Genetic code
   v) Mutagens