Chittagong Veterinary and Animal Sciences University
DVM 3rd Year 1st Semester Final Examination, 2011
Course Title: Animal Nutrition (Theory)
Course Code: ANT-301
Full Marks: 55, Time: 3 Hours

(Figures in the right margins indicate full marks. Answer any **3 (three)** questions from each section of which Question No. **5 (Five)** is compulsory. Use separate answer script for each section.)

Section-A

1.	a)	Define nutrients.	2
	b)	Mention the role of nutrients in the animal body with their deficiency symptoms.	4
	c)	Classify feed stuffs with examples.	3
2.	a)	Define Crude protein.	2
	b)	Briefly discuss the measures of protein quality in monogastric animals.	4
	c)	What do you mean by true protein and non-protein nitrogen?	3
3.	a)	Classify vitamins with examples.	2
	b)	Mention the physiological functions and deficiency symptoms of vitamin E, B_1, and B_2.	4
	c)	Define choline. Why choline-chloride is frequently used in poultry diets?	3
4.	a)	What is in vivo, in vitro and sacco digestibility trail?	3
	b)	How would you like to estimate digestibility of Napier grass by indicator method?	3
	c)	What is feeding standard? List the important feeding standard for animal.	3

Section-B

5.	a)	Throughout the world, ruminants mostly rely on forage based diets rich in polyunsaturated fatty acids (PUFAs). However, animal fats are always dominant in saturated fatty acids and why?	4
	b)	"Gluconeogenesis is an inevitable metabolic process particularly in high yielding lactating cows" justify.	3
	c)	Unlike non-ruminants, why ruminants can not bio-synthesize lipid or fat from glucose?	3
6.	a)	Classify minerals with examples.	2
	b)	Mention the major physiological functions and deficiency symptoms of Fe, Cu, Zn and Mn.	5
	c)	What is the relationship between copper- molybdenum-sulphur?	2
7.	a)	Define lipid, fat, oil, cholesterol and wax. How do ruminants drive nourishment from them?	3
	b)	Discuss the procedure of lipid digestion in ruminants.	3
	c)	What are the lethal impacts of excess dietary lipids in ruminants?	3
8.		Write short notes on (Any three) : i) Near infra-red reflectance spectroscopy (NIRR) ii) Electron transport chain iii) Sphingolipid. iv) Biological value (BV)	3x3=9

Chittagong Veterinary and Animal Sciences University

DVM 3rd Year 1st Semester Final Examination, 2011

Subject: Virology (Theory)

Course Code: VIR– 301

Full Marks – 70; Time: 3.0 Hours

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

Section-A

1. a) Name the "Father of virology" with his discovery. 1
   b) Differentiate organisms from virus. 6
   c) Describe the chemical composition of viruses with their importance. 4

2. Write down the laboratory diagnostic procedures of:
   a) Rabies; b) Foot and mouth disease; c) Infectious laryngotracheitis and d) Newcastle disease 3X4=12

3. a) Differentiate interference of virus infection from interferon-induced virus replication inhibition. Describe the properties of interferon. 5
   b) Define bacteriophage and describe the replication cycles of different types of bacteriophages. 4
   c) Describe in brief the methods of penetration of viruses into cells. 3

4. Differentiate between: 3X4=12
   a) Chicken pox virus and fowl pox virus
   b) Infectious canine hepatitis virus and canine distemper virus
   c) Duck plague virus and duck viral hepatitis virus
   d) Infectious bursal disease virus and infectious bronchitis virus

Section-B

5. a) Give the morphological and cultural properties of avian influenza A viruses. 4
   b) How will you diagnose avian influenza in laboratory? 4
   c) Give a brief outline on different forms of Newcastle disease seen in chickens. 3

6. a) Write down the cultural properties of infectious canine hepatitis virus. 4
   b) Make a list of the veterinary important viruses belonging to the family Poxviridae and the diseases they cause. 4
   c) How will you diagnose infectious bronchitis in laboratory? 4

7. a) What are the samples you will collect for the diagnosis of the following diseases? 4
      i) Peste des petits ruminants; ii) Canine distemper; iii) Duck viral hepatitis; iv) Bovine papillomatosis
   b) Give the morphological and genomic properties of foot and mouth disease virus. 4
   c) What are the vaccines available for rabies? What do you mean by pre- and post rabies vaccinations? 4

8 Write short notes on (Any three): 3X4 =12
   a) Nucleo-capsid of virus
   b) Chicken infectious anemia virus
   c) Orf virus
   d) Prion

Chittagong Veterinary and Animal Sciences University

DVM 3rd Year 1st Semester Final Examination, 2011

Subject: Parasitology (Arthropods) (Theory)

Course Code: PAR-301

Full Marks – 70, Time: 3 Hours

(Figures in the right margin indicate full marks. Answer any **4 (FOUR) questions** from each section where Ques. 1 is compulsory. Use separate answer script for each section)

Section-A

1. a) Who are arthropods and hexapods? 2
   b) Differentiate between carriers and vectors. 2
   c) Mention the role of arthropods in veterinary science. 2

2. a) Outline the life cycle of *Gasterophilus.* 3
   b) Give the characteristics of *Ixodes* and *Linguatula.* 4

3. a) Write down the life cycle and pathogenic significance of demodecosis in dog. 2
   b) How will you morphologically identify the following arthropods:- 0.5X2= 2
   i. *Pulex irritans* ii. *Bovicola bovis* iii. *Haematopinus eurysternus* iv. *Haemaphysalis sp.*

4. a) How will you differentiate Culicine from Anopheline mosquitoes? 3
   b) How does a female mosquito suck blood from host? 3
   c) Why oil-based insecticides are used in mosquito control program? 1

5. Write short note on any two of the following: 3.5X2= 7
   i. Chemical control of veterinary arthropod pests
   ii. Mite infestation in poultry
   iii. Insect pest of sheep, goat and cow in Bangladesh

Section-B

6. a) Differentiate the following:- 2X2= 4
   i. Psoroptes from Chorioptes
   ii. Suborder Mallophaga from Anuplora 3
   b) Write short note on "Nasal bot fly of sheep"

7. a) "Morphological adaptation of flea is important for easy movement in the body coat of animal"- how? 2
   b) How the causal agent of black death is transmitted from rat to human. 2
   c) Write down the pathogenic significance of flea infestation of man and animals. 3

8. a) Define diapause and quiescence. How unfed tick maintain water balance in adverse condition? 3
   b) How salivary secretions of a tick facilitate blood sucking from host? 2
   c) What are the differences in the life cycle of 3-host tick and multi-host soft tick? 2

9. a) Define myiasis. Mention the Bishopps classification of myiasis with example. 1
   b) Delineate the possible risk factors which instigate myiasis in animals. 3
   c) What measures can be taken to control myiasis? 3

10. a) Define the following terms:- 0.5x6= 3
    i. Metamorphosis ii. Alloscutum iii. Haller`s organ
    iv. Exarate pupa v. Hypostome vi. Stomodaeum
    b) Write down the vector importance of the following arthropods- 0.5x8= 4
    i. *Boophilus microplus* ii. *R. appendiculatus* iii. *Xenopsylla cheopis*
    iv. *Phlebotomus papatasi* v. *Tabanus striatus* vi. *Haematopinus suis*
    vii. *Culex pipiens* viii. Oribatid mite

Chittagong Veterinary and Animal Sciences University
DVM 3rd Year 1st Semester Final Examination, 2011
Subject: Poultry Production (Layer & Broiler) (Theory)
Course Code: PPR- 301
Full Marks: 70, Time: 3 Hours

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

Section-A

1. a) How does poultry industry contribute to the livelihood of the people of Bangladesh (with adequate data support)? 6
   b) Define breed, variety and strain. How does pure line contribute to the development of modern layer strain? 5

2. a) Define "Physiological zero" 1
   b) What factors do influence the total incubation period of egg? 2
   c) How are fertile eggs stored? 2
   d) Why is it important to preheat fertile eggs before setting in the incubator? 2
   e) Briefly describe the methods of table egg preservation. 5

3. a) Define the term "Bio-security". How will you maintain bio-security in a poultry farm? 5
   b) What is "fumigation"? Write down the steps of fumigation in an incubation room? 4
   c) Define "fertility and hatchability. How many fertile eggs will be needed to set to get 1000 day old chicks at a time under artificial incubation method? 3

4. Write short notes (any four) 4X3=12
   a) Restricted feeding; b) Moulting ; c) Debeaking; d) Calorie-Protein Ratio;
   e) Scalding; and f) Vaccination in commercial broiler farm.

Section-B

5. a) What do you mean by early sexual maturity? Why does occur? State the consequence of early sexual maturity with remedy. 4
   b) Classify stress in poultry. How will you manage heat stress in a commercial laryer and broiler? 5
   c) Write down the nutritional requirements for commercial layer and broiler. 2

6. a) What is brooding? Briefly describe the brooding requirements for layer and broiler. 6
   b) What do you mean by flock uniformity? How could you develop a uniform replacement pullet stock? 6

7. a) What is FCR? What are the factors that can negatively affect the flock FCR? 6
   b) What do you mean by selection & breeding? How can selection and breeding improve productivity of native chickens in Bangladesh? 6

8. Write short notes (any four) 4x3=12
   a) Production indices; b) Aseel; c) Management of litter; d) Cage versus Floor rearing;
   e) External quality of egg; and f) Straight run

Chittagong Veterinary and Animal Sciences University

DVM 3rd Year 1st Semester Final Examination, 2011

Subject: 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 5 is compulsory**. Use separate answer scripts for each section)

Section-A

1. a. Define reflex. Briefly describe the combination of a reflex arc. 4
   b. Define polarization. Give a diagrammatic description of various types of polarization developed across the cell membrane. 5

2. a. Define pituitary diabetes and diabetes mellitus. 2
   b. List the hormones secreted from liver and heart. What are the effects of FSH, LH and Prolactin in female 3
   c. Describe the effects of thyroid hormones on animal body. 4

3. a. Trace the path of a sperm from the testis to its release through the penis. 2
   b. Briefly describe the spermatogenesis process. 4
   c. Discuss the hormonal control of spermatogenesis. 3

4. a. Differentiate estrous cycle from menstrual cycle. 4
   b. Describe the fluctuations of different reproductive hormones during estrous cycle of a cow. 5

Section-B

5. a. Define puberty. Describe the factors affecting puberty in cattle. 4
   b. Discuss the role of pineal gland on reproduction. 3
   c. Write the functions of non-pituitary gonadotropins. 3

6. Define the following terms:
   a. Synaptic delay, fatigue, spatial summation and paralysis. 2
   b. What is receptor? Classify the sensory receptors of nervous system according to a particular form of energy. 4
   c. Differentiate between sympathetic and parasympathetic nervous system. 3

7. a. Which vitamin can act as a hormone and how? Show in schematic way about the activation of that vitamin in kidney. 3
   b. What is fight and flight response? Describe the role of adrenal medullary hormones in this response. 3
   c. Why pineal gland is called the "Third Eye"? What are the biological effects of melatonin in individual? 3

8. a. Mention the changes occurring by hormone around parturition in cattle. 3
   b. Define estrous synchronization and test tube baby. 2
   c. Write the detailed use of prostaglandin in the process of estrous synchronization. 4

DVM 3rd Year 1st Semester Final Examination, 2011
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) Define choke, cirrhosis, ruminal bloat and glossitis. 2
   b) Describe the mechanism of frothy bloat and tympany 5

2. a) Name some parasites that cause myositis. 2
   b) Write down the mechanism of nutritional myopathy. 3
   c) Write down the microscopic lesions of eosinophilic myositis. 2

3. a) Differentiate hyperkeratosis from parakeratosis. Mention their causes. 2
   b) How a vesicle is formed? 3
   c) List five neoplasms of skin. Write short note on squamous cell carcinoma. 2

4. a) Name some transboundary animal diseases. 1
   b) Write down the epidemiology, pathogenesis and pathology of avian influenza. 6

5. a) List five neoplastic diseases of poultry. 1
   b) Write down the post-mortem lesions of the following diseases (any three):- 3x2=6
   i. Fowl cholera ii. Infectious bursal diseases iii. Fowl typhoid iv. Duck plague

6. a) Name different types of hepatic necrosis. 1
   b) What is nut-meg liver? How is it formed? 2
   c) Describe the causes and types of cirrhosis. 4

Section-B

7. a) What do you mean by pneumonia and pneumonitis? What are the causes of pneumonia? 2
   b) Name special types of pneumonia. Briefly describe gangrenous pneumonia and pneumonia of shipping fever. 5

8. a) Define anemia. Classify anemia based on the morphologic features of red blood cells. 2
   b) What are the different types of anemia? Mention the causes of deficiency anemia. 3
   c) What are the significance and effects of anemia? 2

9. a) Name congenital cardiovascular anomalies. 2
   b) Define heart failure. Describe the pathogenesis and pathology of chronic heart failure. 5

10. a) What do you mean by abortion and still birth? 1
    b) Make a list of infectious diseases of gravid uterus causing abortion. 3
    c) What is pyometra? Briefly describe its pathogenesis. 3

11. a) Differentiate between myositis and myopathy. Describe the mechanism of White muscle disease. 4
    b) Define rickets and osteomalacia. Write down the gross and microscopic features of fibrous osteodystrophy. 3

12. Write short notes on (any two):- 3.5x2=7
    i. Ruminal acidosis ii. Toxic hepatitis iii. Membranous glomerulonephritis.

Chittagong Veterinary and Animal Sciences University
DVM 3rd Year 1st Semester Final Examination, 2011
Subject: Animal Genetics (Theory)
Course Code: AGN- 301
Full Marks: 70, Time: 3 Hours

(Figures in the right margin indicate full marks. Answer **THREE (3)** questions from each section of which question **No. 1** is compulsory. Use separate answer scripts for each section)

Section-A

1. a) Define gene, recessive, backcross and phenotype. 2
   b) State the Mendel's laws of inheritance. Explain law for monohybrid cross with an example in animal. 6
   c) Write down the factors that modify the ratios of Mendelian inheritance. 2

2. a) Distinguish sex-limited and sex-influenced traits. 3
   b) Illustrate the mechanism of sex determination in poultry. 6
   c) What is the genetic mechanism of mitosis? 3

3. a) Differentiate prokaryotic and eukaryotic transcription. 2
   b) Mention the molecular structure of chromosome. 2
   c) Define karyotype. Discuss about the special types of chromosome. 5
   d) Define chromomere, euchromatin and heterochromatin. 3

4. a) Differentiate between gene mutation and chromosome aberration. 4
   b) Classify chemical mutagens with their mode of action. 4
   c) Explain dominant epistasis with a suitable example. 4

Section-B

5. a) What is genetic mapping? 2
   b) How will you construct a genetic map? 5
   c) What is the rate of recombination? Explain. 2
   d) What is meant by genetic code? Write down the characteristics of triplet codon. 3

6. a) What is central dogma of molecular genetics? 2
   b) Describe in brief the process of transcription. 7
   c) What is the purpose of replication? 3

7. a) Define linkage and crossover. What is the significance of crossover? 4
   b) Explain the term penetration and expressivity. 4
   c) Discuss about changes in chromosome number with example(s) 4

8. Write explanatory notes (**any 4**). 4×3=12
   a) Genetic disorders and diseases.
   b) Mechanism of induced gene mutation.
   c) Use of genetic engineering in animal production.
   d) Genetic recombination in bacteria.
   e) Non-epistatic intergenic genetic interaction.

Chittagong Veterinary and Animal Sciences University
DVM 3rd Year 1st Semester Final Examination, 2011
Course Title: General Pharmacology (Theory)
Course Code: GPH-301
Full Marks: 70, Time: 3 Hours

(Figures in the right margins indicate full marks. Answer **three** questions from each section of which Q 1 and 5 are compulsory. Use separate answer script for each section.)

Section-A

1. a. Define pharmacology, pharmacokinetics, pharmacodynamics and pharmacotherapeutics. 4
   b. What is pharmacopoeia? Differentiate between drug and medicine. 4
   c. Write down the scope of veterinary pharmacology. 3

2. a. Define and classify expectorants with examples. 3
   b. Write down the dose, mode of action, indications and contraindications of bronchodilator in livestock. 5
   c. How does an expectorant differ from a mucolyte? List the name of bronchodilators that are being used in veterinary practices. 4

3. a. Classify intestinal stimulants with examples. 3
   b. Write down the mode of action, dose, indications and contraindications of vegetable oils in cattle. 5
   c. Describe laxatives, purgatives and super-purgatives with examples. 4

4. a. Define diuretics. Enlist the indications of diuretics commonly used in animals. 4
   b. Write down the mode of action and uses of thiazide diuretics. 4
   c. Define urinary antiseptics. Write down the indications and mode of action of urinary antiseptics. 4

Section-B

5. a. Classify cardiac glycosides with examples. 3
   b. Write down the dose, mode of action, indications and contraindications of digitalis in dog. 5
   c. How will you differentiate heparin from warfarin? 3

6. a. Write down the advantages and disadvantages of injectable anesthetics. 4
   b. Write down the mode of action, clinical uses and doses of pentobarbital sodium in small and large animals. 4
   c. What is meant by "dissociative agent"? Give a brief note on clinical uses of xylazine and ketamine in dog and cat. 4

7. a. Define parasympathomimetics and parasympatholytics with examples. Write down the clinical uses of parasympathomimetics and parasympatholytics. 4
   b. Schematically show the biosynthesis and write down the clinical uses of prostaglandins in veterinary field practice. 4
   c. Briefly describe how histamine is released in the body? Write down the clinical uses of antihistaminics in veterinary practices 4

8. Write short notes on any three below 3×4=12
   a. Anticoagulants
   b. Adrenaline
   c. Indirect purgatives
   d. Drug incompatibility

Chattogram Veterinary and Animal Sciences University
DVM 2nd year 2nd Semester Final Examination 2019
Subject: Veterinary Nematology (Theory)
Course Title: VNM-202 (T)
Full Marks: 70, Time: 3 Hours

(Figures in the right margin indicate full marks. Answer any five (5) questions from each section. Use separate answer script for each section. Fractions of the questions must be answered together).

SECTION-A

1.	a)	What is bursa? Enlist the genera under bursate and non-bursate nematodes.	4
	b)	Classify esophagus of nematodes with examples.	3
2.	a)	Why the nematode is called roundworm? Describe the general morphology of ascarids.	3
	b)	Illustrate the harmful effects in horses by the larval stages of Strongylus spp.	4
3.	a)	Illustrate the life cycle and pathology of bovine Ostertagiosis.	5
	b)	Enlist the hookworms of domestic and pet animals.	2
4.	a)	Elaborate the biology and pathology of *Neoascaris vitulorum*.	4
	b)	Formulate an effective control of strategy against filaroids.	3
5.	a)	Diagnose the following parasites in the laboratory through coprological examination- (any five) *i. Haemonchus contortus* ii) *Trichostrongylus axei* iii) Capillaria spp iv) *Trichuris trichiura* v) *Ascaris suum* vii) *Dictyocaulus viviparus*	1×5 =5
	b)	'Poultry cecal worm plays vital role in the epidemiology of blackhead disease'- Justify	2.
6.		Write notes on any two of the following disease conditions. a) Dracunculosis b) Summer sore c) Barber's pole worm	3.5×2 =7

Section B

7.	a)	Mention the risk factors associated with 'humpsore' and 'muscle worm' infection	3
	b)	Illustrate the life cycle of 'canine hookworm'	4
8.	a)	Enlist nematodes that are transmitted through 'skin penetration', 'trans-mammary' and 'transplacental'.	3
	b)	Write down the life cycle, pathogenic significance and diagnosis of 'gapeworm' infection in turkey.	4
9.	a)	Contrast the life cycles of *Ascaris suum*, *Toxocara canis* and *Neoascaris vitulorum*.	3
	b)	Write short note on 'hypobiosis' and 'PGE'	4
10.	a)	Explain why it is difficult to treat 'Dirofilariasis' in dog by anthelmintic?	3
	b)	Write down the pathogenesis and clinical findings of 'Spirocercosis' in stray dogs.	4
11	a)	How will you morphologically identify the following parasites in a clinical pathology laboratory? *i)Haemocnhus contortus* ii) *Ancylostoma tubaeforms* iii) *Trichuris globulosa* iv) *Strongylus equinus* v) *Macracanthorhynchus hirudinaceus* vi) *Dirofilaria immitis*	0.5×6 =3
	b)	State the life cycle and public health significance of '*Trichinella sprialis*' infection	4
12	a)	Enlist cuticular modifications of nematodes with appropriate examples.	3
	b)	Write down the scientific name / causal agent against their below mentioned common name / condition I. Poll evil ii. Summer sore iii. Calabar swelling iv. Pinworm (man) v. Redworm (horse) vi. Fork worm vii. Whipworm (dog) vii. Eyeworm (poultry)	4

Chittagong Veterinary and Animal Sciences University
DVM 2nd Year 2nd Semester Final Examination-2015
Course Title: Veterinary Nematology (Theory)
Course Code: VNE- 202 (T)
Full Marks: 70; Time: 3 Hours

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

Section-A

1. a) Draw and label a longitudinal section of a typical male nematode. 3
   b) Illustrate with diagram the different types of esophagus of nematode parasites. 4

2. a) List the definitive hosts with the predilection sites of any three of the following nematodes. 3
      i) *Toxocara vitulorum*, ii) *Heterakis gallinarum*,
      iii) *Oesophagostomum radiatum*, and iv) *Syngamus trachea.*
   b) Compare the morphological features between Ascaridia and Strongyloidea. 4

3. Describe the pathologic significance of the followings: 7
   (a) Anchylostomiasis in dogs, and
   (b) Lung worm infestation in calves.

4. a) Sketch the life cycle of canine ascarid worms. 3
   b) How verminous aneurysm and verminous colic are produced in horse? 4

5 a) Describe the life cycle and pathologic significance of canine heart worm infection. 4
   b) Explain the pathologic effect of *Spirocerca lupi* infection in dog. 3

6 a) Describe the life cycle of *Trichinella spiralis*. 3
   b) Enlist eight nematodes causing diarrhoea and/or anaemia in animals. 4

Section-B

7. a) Name six bursate and six non-bursate nematodes. 3
   b) How will you differentiate between type-I and type-II ostertagiasis? 4

8. a) Name the parasitic nematodes of ducks with their predilection site in the hosts and their brief significance. 3
   b) Write brief notes on:
   (i) Hypobiosis, and (ii) Periparturient rise. 4

9. a) Draw and label the cuticular modifications of nematodes. 3
   b) What do you mean by following conditions? 4
   i) Summer sore, ii) Sweating blood, iii) Humpsore, and iv) Nurse cell.

10. a) Show the nematodes of dogs according to predilection site in a diagram. 4
    b) Design the control measures against public health significant nematodes. 3

11. a) Write down the life cycle and pathologic significance of *Haemonchus contortus* infection in a heifer. 4
    b) Write down the pathologic significance of kidney worm of pig. 3

12. State the important morphological characteristic of the following nematodes. 7
    a) *Trichuris suis*, b) *Syngamus trachea*,
    c) *Toxocara vitulorum*, d) *Strongylus vulgaris*,
    e) *Stephanofilaria assamensis*, f) *Ascaridia galli*, and
    g) *Oesophagostomum radiatum*.