

Chittagong Veterinary and Animal Sciences University
DVM second Year Second Semester Final Examination/2011

Course Title: Systemic Physiology (Theory)

Course Code: SPH -202

Full Marks – 70, Time: 3 hours



(Figures in the right margin indicate full marks. Answer any 3 (Three) questions from each section where Q. No. 1 (One) and 5 (Five) are compulsory. Use separate answer scripts for each section)

Section-A

1. a) List the hormones that work on kidney. Write down the role of antidiuretic hormone on kidney in case of hemodilution and hemoconcentration. 4
b) Write down the steps of urine formation. Discuss glomerular filtration during urine formation. 4
c) Show the Renin-Angiotensin-Aldosterone mechanism in sketch form. 3
2. a) Write down the ways of heat loss and heat gain. Briefly discuss the circulatory adjustment when animals are exposed to hot weather. 4
b) What are the insulatory systems of the body? Write down the role of aldosterone and thyroxine in temperature regulation. 4
c) Write short notes on heat stroke and frost bite. 4
3. a) Define different types of respiration. 3
b) Describe carbon di-oxide transportation process in blood. 6
c) Define hypoxia. Discuss clinical importance of histotoxic hypoxia. 3
4. Write short notes on (any four): 3×4=12
a) Metabolic alkalosis; b) Carbon monoxide poisoning; c) Basal metabolic rate; d) Hibernation; e) Lactose intolerance; f) Gastroileal reflex

Section-B

5. a) What is ethology? Briefly describe the feeding behaviour of animal. 4
b) How do pheromones help in eliciting sexual, communicating and territory marking in animals? 4
c) Discuss about abnormal sexual behaviour of female cattle. 3
6. a) "Treponin-C is an important component of muscle contraction"-justify this statement. 4
b) Define tetanus, summation, muscle fatigue and rigormortis. 4
c) Classify animals on the basis of olfactory senses. Discuss sterio-chemical theory of olfaction. 4
7. a) List the bile acids. Briefly describe the conjugation and deconjugation processes in the formation of bile. 5
b) Discuss the excretory pattern of bile into the intestine with the emphasis on the effect of cholecystectomy. 3
c) Write down the mechanism of Na⁺, Cl⁻ and K⁺ absorption through intestinal epithelium. 4
8. a) You are asked to examine a 2-day old calf, having clinical signs of subnormal temperature, dry mouth, cool extremities, sunken eyes, wet tail and perineum. Assess and write your management strategy for the case. 4
b) Sketch the digestive pathways of nitrogenous compounds in rumen. Write down the fate of ammonia in animal body. 4
c) Which part of avian digestive tract is considered as the glandular stomach? What are the roles of this gland in food digestion? 2
d) Define enterogastrone and write its role in digestion process. 2

Chittagong Veterinary and Animal Sciences University

DVM 2nd Year 2nd Semester Final Examination-2011

Subject: Dairy Microbiology (Theory)

Course Code: DMC- 202

Full Marks – 55, Time: 3 Hours

(Figures in the right margin indicate full marks. Answer any 3 (Three) questions from each section where Qu. No. 1 and 5 (Five) are compulsory. Use separate answer script for each section)

Section-A

- 1 a) Enumerate the important bacterial families concerned with milk and milk products. 3
b) Discuss in short the genus "*Streptococcus*". 4
c) What are the importances of studying dairy microbiology? Write in short. 3
- 2 a) What are the reasons for controlling the growth of microorganisms? 2
b) "The cow is a source of possible pathogens"- Explain. 3
c) How will you destroy the microorganisms by chemical agents? Briefly discuss it. 4
- 3 a) What is HACCP? 2
b) Write down the principles of HACCP. 3
c) Explain with examples of "HACCP" system. 4
- 4 Write short notes (any three) 3x3=9
a) Microbial standards of milk and milk products;
b) Microbiology of butter;
c) Destruction of microorganisms by physical agents;
d) Undesirable fermentation of milk ; &
e) Milk-borne diseases.

Section-B

- 5 a) What are the common characteristics of the microorganisms under the family Lactobacillaceae? 2
b) Classify Lactobacillaceae family with examples? 5
c) Why it is important in Dairy Microbiology? 2
- 6 a) What are bacteriological problems of market milk and cheese? 3
b) Briefly discuss the cleaning and sanitation procedure of permanent pipeline in a milk processing plant. 4
c) Write the common defects of market dahi in a tabular form. 2
- 7 a) Define Sanitation, Cleaning and Sterilization. 3
b) Discuss in brief the role of milking utensils in milk sanitation. 4
c) Classify milk on the basis of microbiological standards. 2
- 8 Write short note (any three) 3x3=9
a) Acidophilus milk;
b) Defects of starter culture;
c) Coliform bacteria;
d) Milk as medium for bacterial growth;
e) *Leuconostoc*; and
f) Economic organisms .

Chittagong Veterinary and Animal Sciences University

DVM 2nd Year 2nd Semester Final Examination-2011

Subject: Dairy Science (Theory)

Course Code: DSC- 202

Full Marks – 70, Time: 3 Hours

(Figures in the right margin indicate full marks. Answer any 3 (Three) questions from each section where Qu. No. 1 (One) and 5 (Five) are compulsory. Use separate answer scripts for each section)

Section-A

1. a) What is milk? Mention the gross and analytical composition of milk. 3
b) Discuss the chemical properties of milk. 5
c) "Mother's milk is ideal for human infants"-Explain. 3
2. a) What type of dairy product ice-cream is? Mention the role of different ingredients in a dairy ice-cream. 4
b) What are the points you will consider for making ice-cream. 4
c) Discuss the freezing procedure of ice-cream. 4
3. a) Mention the principles of cheese making. 4
b) Write down the manufacturing procedure of Dhaka Cheese. 4
c) Mention the common defects, their causes and probable remedies of cheese making. 4
4. Write short notes (any three) 4x3 =12
a) Cottage Cheese; b) Cheddering; c) Aroma; d) Homogenization; and
e) Defects of Dairy

Section-B

5. a) Define cream, butter and ghee with their compositions. 4
b) What are the differences between plane butter and salted butter? 3
c) Classify the different types of cream showing their fat percentages. 4
6. a) What are the different theories that are involved in butter making? 4
b) What do you mean by "Butter milk"? 4
c) How does culturing improve nutritional qualities of butter milk? 4
7. a) List the factors affecting quality and quantity of milk production. Explain three most important factors in context to Bangladesh. 6
b) Discuss the general considerations for selecting a dairy cattle breed. 3
c) Mention the facilities to be ensured in a commercial dairy farm. 3
8. a) What are the factors you may consider about the site selection for an intensive dairy farm? 3
b) How do you like to manage the total dairy herd of a farm in loose and stanchion barn? 4
c) What are records you are to maintain in a dairy farm? Show the formats of the breeding and A.I. records. 5

Chittagong Veterinary and Animal Sciences University
DVM 2nd Year 2nd Semester Final Examination, 2011
Course Title: Systemic Bacteriology and Mycology (Theory)
Course Code: SBM-202
Full Marks: 70, Time: 3 Hours

(Figures in the right margin indicate full marks. Answer 3 (three) questions from each section where question No. 1 and 5 are compulsory. Use separate answer script for each section.)

Section-A

1. a) Which disease is caused by *Salmonella enterica* serovar Gallinarum in chickens? 1
 b) Mention the clinical specimens to be collected for salmonellosis. How can the disease be diagnosed in laboratory? 8
 c) What reactions do *Salmonella* give to triple sugar iron agar? 2
2. a) What does *Listeria monocytogenes* cause in cattle? 2
 b) Mention the clinical specimens you would collect to isolate *Listeria monocytogenes*. Write down its isolation and identification procedures. 5
 c) State the cultural characteristics of *Nocardia*. 5
3. a) Enumerate differentiating features of the organisms that cause lumpy jaw and wooden tongue. 5
 b) State the bacterial organisms that cause mastitis in cattle. 5
 c) What is summer mastitis? 2
4. Write short notes on (Any four): 4x3=12
 a) CAMP test
 b) MacFadyean reaction
 c) Toxins of *Clostridium botulinum*
 d) Coagulase test
 e) Acid fast bacteria

Section-B

5. a) Describe the functions of toxins produced by *Clostridium chauvoei* and *Clostridium tetani*. 2
 b) What are the samples you will collect for leptospirosis, swine erysipelas, black quarter and botulism? Write down the diagnostic procedures of brucellosis from clinical samples. 4
 c) Name the dermatophytes of cattle. How will you diagnose a case of dermatophytosis in a dog caused by *Microsporum canis*? 5
6. a) What are the criteria used for classification of bacteria? Define serotype, biotype and strain of a bacterial pathogen. 5
 b) Write down the functions of different metabolites produced by Streptococci. 4
 c) What are the antigens found in Streptococci? 3
7. a) Give the cultural properties of *Bacillus anthracis*. 4
 b) Write down the functions of the toxins produced by *Bacillus anthracis*. How will you differentiate *Bacillus anthracis* from *Bacillus subtilis*? 4
 c) Enumerate different species of pathogenic Clostridia belonging to different groups according to Bergey's manual. 4
8. a) How can you screen a cattle herd for bovine tuberculosis? 6
 b) What are the major categories of *Escherichia coli*? Enumerate the diseases or disease conditions caused by *Escherichia coli* in chickens. 4
 c) What are "X" and "V" factors and what are their precursors? 2

Chittagong Veterinary and Animal Sciences University
DVM 2nd Year 2nd Semester Final Examination, 2011
Subject: Parasitology (Nemathelminthes and Malacology) (Theory)

Course Code: PNM-202

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) What is meant by the term "Nemathelminthes"? How do you differentiate a nematode from that of other helminthes? 4
- b) Mention the intermediate host(s) of following helminthes:- 0.5x6=3
 - i. *Habronema megastoma* ii. *Spirocerca lupi* iii. *Oxyspirura mansoni*
 - iv. *Dracanculus medinensis* v. *Gnathostoma spinigerum* vi. *Dioctophyma renale*
2. a) What is "Barber's pole worm"? State the pathogenesis of an important nematode which is habitat in abomasums of sheep. 3
- b) Briefly describe the pathogenesis of *Strongylus vulgaris* infection in horse. 4
3. a) Mention the common characteristics of ascarid nematodes. How do they harm the host? 3
- b) Write down the risk factors associated with ascariasis in cattle. How will you control such parasitic infection in a dairy herd? 4
4. a) "*Heterakis gallinarum* act as the mechanical vector of *H. meleagridis*"- justify. 3
- b) Differentiate the following:- 2x2=4
 - i. Eggs of *Trichuris* from *Capillaria* spp.
 - ii. Thread worm from Thorny headed worm
5. a) Define malacology and conchology. Mention the biological classification of snails. 4
- b) Briefly describe the important ecological parameters of snails. 3
6. Write short note(s) on (any TWO):- 2x3.5=7
 - i. Oesophagostomiasis ii. Humpsore iii. Hypobiosis

Section B

7. a) Mention the scientific name(s) of the following:- 0.5x4=2
 - i. Nodular worm of cattle iii. Swine kidney worm
 - ii. Thread worm of cattle iv. Poultry round worm
- b) State the morphology, life cycle and pathogenesis of lung worm infection in cattle. 5
8. a) Draw and label the eggs of the following:- 1x4=4
 - i. Stomach worm ii. Whip worm iii. Hook worm iv. *Neoascaris vitulorum*
- b) Write short note on "Arrested larval development" in nematodes. 3
9. a) Draw different types of oesophagus of nematodes with example. 3
- b) Mention the morphological features of the following:- 0.5x8=4
 - i. *Strongylus vulgaris* ii. *Haemonchus contortus* iii. *Toxocara cati*
 - iv. *Syngamus trachea* v. *Ancylostoma tubaeforme* vi. *Trichuris vulpis*
 - vii. *Setaria digitata* viii. *Oxyuris equi*
10. a) Define VLM and CLM. How will you prevent it? 3
- b) Mention the causal agents responsible for following conditions:- 0.5x8=4
 - i. River blindness ii. Calabar syndrome iii. Summer bleeding
 - iv. Medina worm v. Seat worm vi. Summer sore
 - vii. Brown stomach worm viii. Cattle hook worm
11. a) Briefly describe the possible mode of transmission of nematodes. 3
- b) How will you confirm the following diseases in the lab? 1x4=4
 - i. Dirofilariasis ii. Ascariasis in cattle
 - iii. Enterobiasis iv. Strongyloidosis
12. a) Write down the morphological features of three different snails of veterinary importance in Bangladesh. 3
- b) How will you control snails in a pasture? 4

Chittagong Veterinary and Animal Sciences University
DVM 2nd Year 2nd Semester Final Examination, 2011
Subject: General Pathology II & Nutritional Pathology (Theory)
Course Code: GNP-202

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) Write down the *in vivo* and *in vitro* properties of cancer cells. 4
(b) How can you differentiate neoplasia with metaplasia under light microscope. 2
(c) Enlist five oncogenic viruses that cause neoplasm. 1
- 2.(a) Briefly describe the pathogenesis of equine rhabdomyolysis. 3
(b) Name Vitamin E-Selenium deficiency diseases of veterinary importance. 2
(c) What is goiter? Classify based on microscopic features. 2
- 3.(a) Write down the causes, gross and microscopic lesions of osteomalacia. 5
(b) What are the significance and effects of osteomalacia. 2
- 4.(a) Define inflammation. Classify inflammation on the basis of intensity and exudation. 3
(b) Write down the gross and microscopic features of catarrhal and granulomatous inflammation. 4
5. Differentiate between the following:- 1.75x4=7
(a) Hyperemia and congestion (b) Immediate and delayed type hypersensitivity
(c) Rickets and osteomalacia (d) Benign and Malignant neoplasm
- 6.(a) Define "Shock". Briefly describe different types of shock. 4
(b) Describe how renal failure and hepatic cirrhosis are associated with generalized edema. 3

Section B

7. (a) How does inflammation brings benefit to the body? 2
(b) Write down the etiology, gross and microscopic features of fibrinous inflammation. 3
(c) Describe in detail the repair process. 2
8. (a) What are the common causes of haemorrhage? 3
(b) Mention the mechanism of thrombus formation. Enlist the microscopic features of a thrombus. 4
9. (a) Define autoimmunity and list five autoimmune diseases with their antigens involved. Describe the pathogenesis of Type IV hypersensitivity. 4
(b) Describe the mechanism of inducing Type I hypersensitivity. 3
10. (a) Enlist some pathological conditions studied under teratology. 2
(b) What are the common causes of organ atrophy? Give at least two practical examples where the following conditions are found:- 3
 i. Numerical atrophy ii. Metaplasia iii. Compensatory hypertrophy
(c) Write in short the role of macrophages in immune system. 2
11. State the pathogenesis and pathology of cyanide and arsenic poisoning. 7
12. (a) Describe the pathogenesis of the poison causing "Histotoxic anoxia" in animal. 3
(b) Datura toxin can cure symptoms of pesticide poisoning, how? 3
(c) Enlist the toxic plants that hamper hemostasis. 1

Chittagong Veterinary and Animal Sciences University

DVM 2nd Year 2nd Semester Final Examination, 2011

Subject: Animal Production (Sheep & Goat) (Theory)

Course Code: -APR 202

Full Marks – 70, Time: 3 hours

(Figures in the right margin indicate full marks. Answer any 3 (Three) questions from each section where Qu. No. 1 (One) and 5 (Five) are compulsory. Use separate answer scripts for each section)

Section-A

1. a) State the taxonomy of goat. 6
b) State the common characters of goat with special reference to Bengal Goat 5
2. a) State a short note on “Prospect of Sheep Farming in Bangladesh”. 6
b) What are the advantages of meat type sheep over wool type sheep in Bangladesh? 6
3. a) What are the common daily activities of an intensive goat farming? 6
b) What are the distinct differences you find for the daily activities in terms of seasonal differences? 6
4. a) Write down five breeds of goat. State the signs of heat in goats. 6
b) State the comparative reproductive behaviour of sheep & goat. 6

Section-B

5. a) What do you mean by “Breeding Efficiency” of a sheep flock? 2
b) How can you measure the breeding efficiency of the sheep flock? 4
c) What should be the ratio of ram: ewe in a breeding flock consisting of 5000 ewes of coarse wool producing breed? Do you think it can vary in case of the same-sized flock of ewes of fine wool producing breed? Justify your answer. 5
6. a) List the common diseases of sheep. State a short note on “Maggot Infestation in Fleece”. 5
b) Briefly describe about the feeding of ewe during gestation and lactation period. 7
7. a) Write down the feeding habits of goat. 5
b) Draw and label the female reproductive tract of a goat or sheep. 7
8. Write short notes on any 4 (four) of the followings: 4X3= 12
a) Tethering or stacking out the goat; b) Synchronization of heat in ewe; c) Libido in Bengal Goat buck; d) Cloud Burst; e) Jamunapari Goat; and f) Kid mortality