

Chittagong Veterinary and Animal Sciences University
DVM 2nd Year 2nd Semester Final Examination, 2013
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 of which question no 1 and 5 are compulsory. Use separate answer script for each section.

Section-A

1. a) What is the Mac Fadyean reaction? Describe the major virulence factors of *Bacillus anthracis*. 5
- b) State the phenotypic features of pathogenic actinomycetes of veterinary importance. 3
- c) What do you mean by X and V factors to be required for the growth of *Hemophilus*? Name the pigments produced by *Pseudomonas aeruginosa*. 3
2. a) Write the causal agent of the following disease 0.5x
 i. Bovine farcy ii. Glanders iii. Bumble foot iv. Kennel cough in dog v. Woody tongue 8=4
 vi. Brucellosis of goat vii. Anthrax viii. Enterotoxiemia
- b) Enumerate the anaerobic non spore forming bacteria associated with foot infection in farm animals. 4
- c) A calf aged 10 months is suffering actually from suspected black quarter. How do you handle the case to diagnose at the microbiology lab of CVASU? 4
3. a) Write down the staining, cultural and biochemical properties of *Pseudomonas aeruginosa*. 5
- b) Mention the important species of the genus *Fusobacterium*. In which medium is usually cultivate this organism? 4
- c) Describe the growth characteristics of *Aspergillus fumigatus* on SDA. 3
4. a) What are the fungus responsible for dermatophytes in dog and cattle? How will you identify these dermatophytes at Microbiology lab of CVASU? 4
- b) Write down the cultural properties and identifying characters of the fungus causing brooder pneumonia in poultry 4
- c) Name three (3) important mycotoxins indicating toxigenic fungi and disease conditions produced by them. 4

Section-B

5. a) What are the antigens usually employed in the identification of *Salmonella* serotype? 2
- b) Describe the types of pathogenic *E. coli* that cause enteritis in animals. 3
- c) Outline the sequence of procedures for the isolation and identification of *E. coli* and *Salmonella* from clinical specimens. 6
6. a) Write down the principal characteristics of spirochetes. Differentiate among the genera of *Leptospira*, *Treponema* and *Borrelia*. 4
- b) Name the *Brucella* species with their principal animal hosts. Which clinical specimens are to be required for the diagnosis of *Campylobacter* species from various clinical conditions? 3
- c) Describe the procedures for the isolation and identification of *Brucella abortus* from an aborted calf. 5
7. a) Name the clostridia that can affect liver. Give the microscopic and colonial appearance of the gas gangrene clostridia. 6
- b) Write down the features of neurotoxin of *Clostridium botulinum*. How does the tetanospasmin work? 6
8. a) List three (3) subcutaneous mycoses with their causal agents. How will you cultivate and diagnose *Candida albicans* in laboratory? 4
- b) State the microscopic morphology of *Histoplasma capsulatum* and *Coccidioides immitis* in animal tissue in culture at 25°C and 37°C. 4
- c) Give an example of lipophilic yeast? How will you identify it? 4

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Chittagong Veterinary and Animal Sciences University
DVM 2nd Year 2nd Semester Final Examination, 2013
Course Title: Dairy Science (Theory)
Course Code: -DSC 202
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 & 5 are compulsory. Use separate answer script for each section.)

Section-A

1. a) Name five important dairy breeds with the origin, breed characteristics and production characteristics of any one of them. 7
b) Mention the factors to be considered to select a dairy breed for genotypic improvement of indigenous cattle of Bangladesh. 4
2. a) Define milk. 2
b) State the composition of Cow, Buffalo, and sheep milk. 3
c) State the physico-chemical properties of milk. 7
3. a) What do you mean by Pasteurization and Homogenization? 4
b) What are the different types of pasteurization used in modern dairy industries? 4
c) Mention the relative merits and demerits of different types of pasteurization. 4
4. Write short notes (any three) 3x4= 12
a) Rennet; b) Skim Milk; c) Rancidity in ghee; d) Colostrums; and
e) Factors affecting quality of milk

Section-B

5. a) What is Cheese. Classify cheese with examples. 4
b) Write down the principles of cheese preparation. 3
c) Explain the procedure of preparation of Dhaka cheese. 4
6. a) Define cream, whipping cream, light cream and heavy cream. 5
b) State the fat percentages in dahi, half and half; butter, ghee, cheese and ice-cream. 3
c) State the common defects of table cream with precautionary measures. 4
7. a) Define Ice cream. 2
b) Present a formula of ice cream mix with justification. 4
c) Sketch the flow diagram of ice cream manufacture with elaboration of "Freezing". 6
8. Write short notes (any three) 3x4= 12
a) Whole milk; b) Eye formation in Swiss cheese; c) Syneresis; d) Flavors in ice cream; and e) Milk-meat

Chittagong Veterinary and Animal Sciences University
DVM 2nd Year 2nd Semester Final Examination, 2013
Course Title: General Pathology-II and Nutritional Pathology (Theory)
Course Code: GNP-202
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) Describe the in-vivo properties of neoplastic cells. 5
b) Name five viruses and five parasites causing neoplasia. 2
2. a) Define and classify thrombus. Give the microscopic feature of thrombus. 4
b) How chronic passive congestion may cause Nut Meg liver? 3
3. a) Write down the causes, pathogenesis and pathology of cyanide poisoning. 4
b) Describe the pathogenesis of nitrate and nitrite poisoning. 3
4. a) List the reactive cells of inflammation and describe the role of macrophages in inflammation. 4
b) How exudation is occurred in case of inflammation? Differentiate exudate from transudate in a tabular form. 3
5. a) Define and classify hypersensitivity. Describe the types of hypersensitivity found in case of TB. Write down it's mechanism. 4
b) Describe the causes of autoimmunity. 3
6. a) How ketone bodies are formed in case of ketosis? 5
b) Write down the gross and microscopic features of white muscle disease. 2

Section-B

7. a) Define and classify atrophy. Differentiate it from hypoplasia. 3
b) What are the causes of developmental anomalies? Enlist ten developmental anomalies. 4
8. a) What do you mean by granulation tissue and granulomatous tissue? Write down the microscopic lesions of granulomatous inflammation. 4
b) What type of inflammation is found in case of human diphtheria? Write down its lesions. 3
9. a) Define and classify hemorrhage. Differentiate hemorrhage from hemorrhagic inflammation. 4
b) Write a short note on shock. 3
10. a) Name five autoimmune diseases. Show the mechanism of systemic lupus erythematosus in sketch form. 4
b) Define and classify antibodies. 2
c) Name five immunodeficiency diseases. 1
11. a) Write down the pathology of chronic and acute arsenic poisoning. 4
b) What are the possible sources of lead poisoning? Write down it's pathology. 3
12. a) Enlist the mediators of inflammation. Mention the functions of vaso-active amines and arachidonic acid derivatives. 4
b) Show the process of healing by repair in sketch form. 3

Chittagong Veterinary and Animal Sciences University
DVM 2nd Year 2nd Semester Final Examination, 2013
Course Title: Veterinary Nematology (Theory)
Course Code: VNE-202
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) Draw and label a longitudinal section of a typical female nematode. 3
 b) Illustrate with diagram the buccal capsule of *Strongylus vulgaris*, *S. edentatus* and *S. equinum*. 4
2. a) Name the definitive hosts and their location in it of the following nematodes. 3
 (i) *Oesophagostomum radiatum*, (ii) *Mecistocirrus digitatus*, and
 (iii) *Ancylostoma caninum*.
 b) Compare the morphological features between Ascaroidea and Strongyloidea. 4
3. a) Describe the pathologic significance of the followings: 7
 (a) Canine dirofilariasis, and
 (b) Bovine stephanofilariasis
4. a) Explain hypobiosis in sheep of temperate region. 3
 b) Describe the life cycle of *Toxocara vitulorum* in calf. 4
5. a) Describe the pathologic significance of verminous aneurysm in horse. 4
 b) Illustrate the pathologic significance of *Spirocerca lupi*. 3
6. a) Write down the morphological features and life cycle of gape-worm of poultry. 4
 b) List the nematodes affecting the poultry in Bangladesh. Explain the pathologic significance of *Ascaridia galli*. 3

Section-B

7. a) Mention the scientific name, host names and location of the following nematodes: 3
 (i) Nodular worm, (ii) Eye worm, and (iii) Giant kidney worm.
 b) What general measures you will take to control nematodal gastro-enteritis in farm animals? 4
8. a) What is verminous pneumonia? Write down the morphology and life cycle of the nematode causing verminous pneumonia in cow. 5
 b) "Nematodes can act as the vector of protozoan diseases" justify it. 2
9. a) What is zoonosis? List the nematodes having zoonotic importance. 3
 b) Write down the life cycle and pathologic significance of *Trichinella spiralis*. 4
10. a) What do you mean by anthelmintics and self cure phenomenon? 3
 b) How will you confirm the following infections by coproscopy? 4
 (i) Capillaria infection, (ii) Strongyloides infection, (iii) Ascariasis, and
 (iv) Ostertegia infection.
11. a) Write down the morphological features and life cycle of *Haemonchus contortus* infection in sheep. 5
 b) List the hook worms of cattle, sheep, goats and dogs. 2
12. a) Name two species of nematodes for each of the following animals: 3
 (i) Elephant, (ii) lion, and (iii) Deer.
 b) Write short note on visceral larval migrans. 4

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Chittagong Veterinary and Animal Sciences University
DVM 2nd Year 2nd Semester Final Examination, 2013
Course Title: Systemic Physiology (Theory)
Course Code: SPH-202
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) What is digestion? Mention the types of digestion in ruminants? Write down the process of feed digestion in poultry. 5
b) Mention the functional role of saliva in cattle. 2
c) Describe the role of kidney, liver and stomach in erythropoiesis. 4
2. a) Define diuretics, renal clearance, tubular load and oliguria. Discuss the role of ADH in overhydration. 4
b) Discuss the role of renal tubules in the process of urine formation. 5
c) What are the hormones secreted from kidney? What is Renin-Angiotensin-Aldosterone system? 3
3. a) Define vital capacity and tidal volume. 2
b) Describe the carbondioxide transport in the body with emphasis on chloride shift. 6
c) Discuss briefly the mechanism of inspiration. 4
4. a) Differentiate between fever and hyperthermia. 3
b) Write down the heat regulating mechanism of animals in high environmental temperature. 5
c) Enlist the gastrointestinal hormone with their functions. 4

Section-B

5. a) Define ethogram and stereotypy. Do you think behavior has close relationship with veterinary medicine? If yes, state your evidence. 4
b) List the parturition behavior of mare and cow. 4
c) List the abnormal behavior of cattle, pig and horse. 3
6. a) Branched chain volatile fatty acids (BCVFA) has significant role in protein digestion of ruminants-justify this statement. 4
b) What are the physiological monosaccharides? Describe precisely the absorption of milk sugar and fructose. 4
c) Define chylomicron. Describe how does chylomicron form? Enlist the monomers and trace elements which use Na-cotransport mechanism for their absorption. 4
7. a) What is dark adaptation? Briefly describe the rhodopsin cycle. 4
b) Sketch the mechanism of hearing. 4
c) What do you mean by red sweat, glucoma, sebum and sour taste? 4
8. Write short notes on (any four) 4X3 =12
a) Acid-base balance
b) Prenatal growth
c) Environmental physiology of camel
d) Dialysis
e) Hemostasis

Chittagong Veterinary and Animal Sciences University
DVM 2nd Year 2nd Semester Final Examination, 2013
Course Title: Animal Production (Sheep & Goat)(Theory)
Course Code: -APR 202
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 & 5 are compulsory**. Use separate answer scripts for each section.)

Section-A

1. a) State the taxonomy of sheep 4
 b) State the place of goat in world agriculture. 7

2. a) What do you mean by breeding efficiency of a goat herd? 2
 b) State the common criteria of measuring breeding efficiency of a goat farm. 4
 c) Write down the common management practices for breeding of a goat herd consisting of 500 does. 6

3. a) Discuss the prospects of sheep farming in Bangladesh. 4
 b) State the common sheep diseases. 4
 c) Write down the common management practices for controlling sheep diseases in an intensive farm. 4

4. Write short notes (any three) 3x4= 12
 a) Suitable goat farming system in Bangladesh; b) Importance of goat rearing;
 c) Daily routine activities in a sheep farm; and d) Straw feeding in goat

Section-B

5. a) Classify goat on the basis of utility with examples. 5
 b) Write important goat breeds suitable for farming in tropical countries. Justify. 4
 c) State common goat diseases in Bangladesh. 2

6. a) Name five sheep breeds for producing medium wool with details of one of them. 5
 b) Briefly describe the potential reproductive characteristics of sheep. 4
 c) Why is spring-cut for sheering sheep important? 3

7. a) What do you mean by ONBS? 4
 b) State the ONBS in a "Sketch Diagram" with explanation. 8

8. Write short notes (any three) 3x4= 12
 a) Libido in sheep; b) Flushing; c) Cloud-burst; and d) Asiatic mufflon

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Chittagong Veterinary and Animal Sciences University
DVM 2nd Year 2nd Semester Final Examination, 2013
Course Title: Dairy Microbiology (Theory)
Course Code: -DMC 202
Full Marks: 55, Time: 3 Hours

(Figures in the right margin indicate full marks. Answer 3 (three) questions from each section of which question no. 1 is compulsory. Use separate answer script for each section.)

Section-A

1. a) List the names of important families under the suborder *Eubacterineae*. 3
b) Briefly discuss the genus *Streptococcus* with examples. 4
c) State the importance of studying "Dairy Microbiology" as a veterinary students 3
2. a) Define growth and development of microorganisms showing the growth curve. 4
b) Discuss different factors affecting the growth of microorganisms. 5
3. a) What is HACCP? 1
b) Write down the principles of HACCP. 2
c) Explain with the examples of HACCP in dairy food industry. 6
4. Write short notes (any three) 3x3= 9
a) Destruction of microorganisms by chemical agents; b) Probiotics and Prebiotics; c) Microbiology of market milk; and d) Acidophilus milk

Section-B

5. a) State the concept of lactic culture? 5
b) How will you prepare lactic culture in laboratory? 3
c) What is lyophilization? 1
6. a) Write the significance of coliform bacteria in pasteurized milk. 4
b) How will you control coliform organisms in pasteurizing plant? 3
c) Name some qualitative and quantitative coliform tests for milk. 2
7. a) Define starter culture. State the types of starter cultures used in preparing dairy foods. 4
b) State the steps in developing a starter culture in a laboratory. 3
c) State the common defects of flavor culture. 2
8. Write short notes (any three) 3x3= 9
a) Microbiology of butter; b) IMViC test; c) Thermotolerant bacteria; and
d) Coliform standards for raw milk to be pasteurized, infant formula, market milk and milk powder.